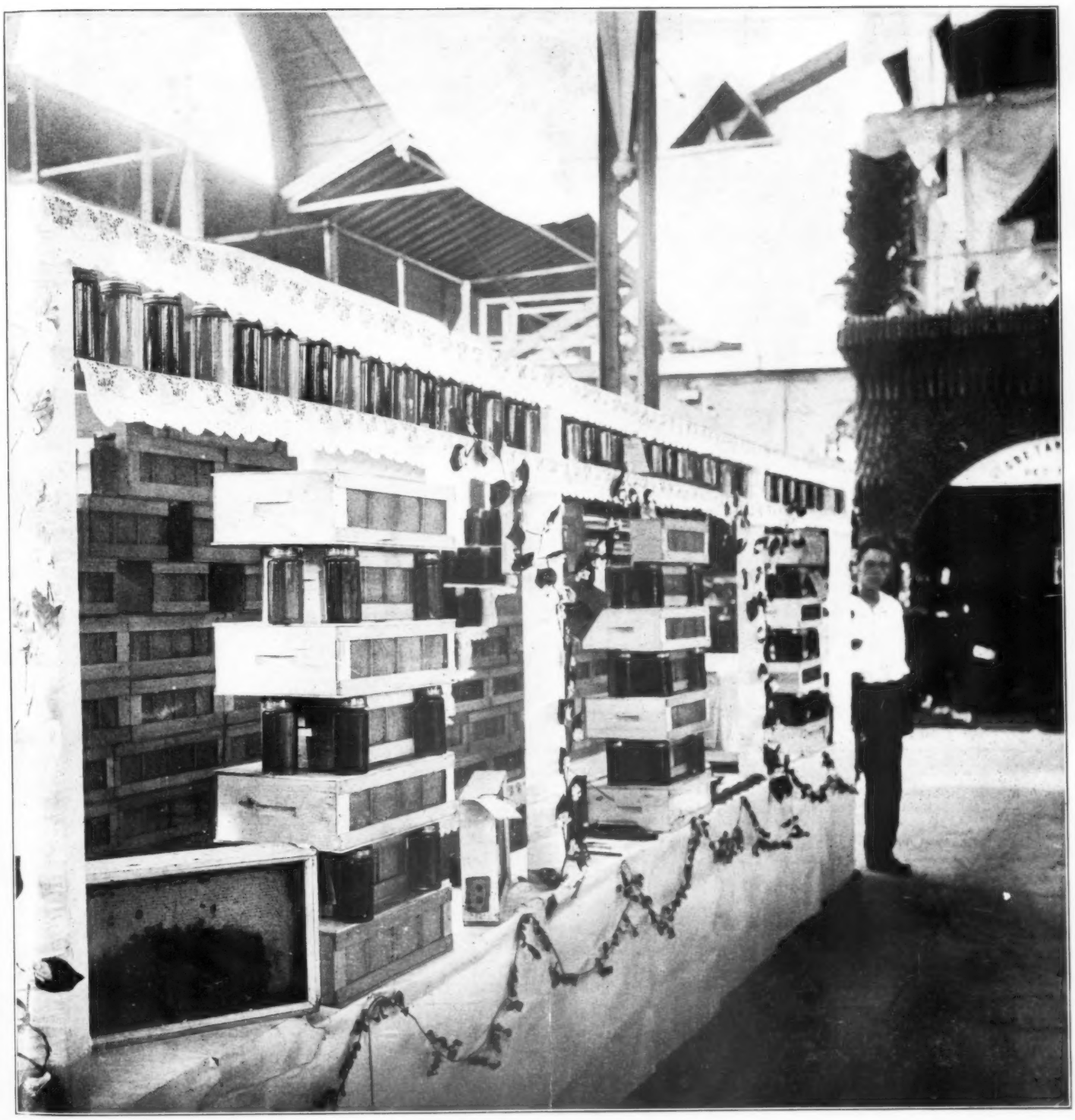
AMERICAN BEE JOURNAL

NOVEMBER 1913



American Bee Journal

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

PUBLISHED MONTHLY BY
American Bee Journal
1st Nat'l Bank Bldg. Hamilton, Illinois

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America and Mexico; in Canada, $1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec13" on your label shows that it is paid to the end of December, 1913.

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Goes to press the 25th of the preceding month.

American Bee Journal

"Honey-Money Stories"

This is a 64-page and cover pamphlet. 5¼x8½ inches in size, and printed on very fine paper. It is illustrated with over 30 beautiful pictures, all relating to bee-keeping. Its object is to interest people in the use of honey as a daily food. It contains a lot of information about the uses of honey, and a copy of it put in the hands of any person should make a good honey customer of him.

Besides the honey information, it contains three bee-keepers' songs, the words of all three having been written by Hon. Eugene Secor, of Iowa, and the music of one of the songs was written by Dr. C. C. Miller. The songs are these:

"The Hum of the Bees in the Apple-Tree Bloom."
"The Bee-Keepers' Lullaby."
"Buckwheat Cakes and Honey."

The music alone is worth the price of the booklet.

—SPECIAL PRICES—

The regular postpaid price of "Honey-Money Stories" is 25 cents, but I will mail one copy for 15 cents, two copies for 25 cents, or 5 copies for 50 cents. If wanted by express, charges not prepaid, I will send 10 or more copies at 5 cents each. Better send for 10 copies as a trial. You will want more. They weigh about 5 copies to the pound.

A Muth Bee-Veil for 65c

I have several dozens of the Muth wire-and-cloth Bee-Veils—a dandy veil—which I will mail for 65 cents each. Order quick if you want one before all are gone.

Wilder's "Southern Bee-Culture"

This is a 50-cent book which I will mail for 30 cents so long as they last.

Danzenbaker Bee-Smoker

The $1.00 postpaid size I will mail for only 80 cents. It's a fine bee-smoker. Order at once if you want one.

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It is a nice thing to have a rubber stamp with your name and address. You can then stamp the letters you write, or the envelops you use, or anything at the bottom of the booklets, "Honey as a Health Food," for stamping your name and address.

I can furnish you a Rubber Stamp, with your name and address, at the following prices, postpaid, the stamp being 2½ inches long:

One Line Stamp.....30 cents
Two " " .....45 "
Ink Pad (2½x3¼ inches)..15 "

All orders will have prompt and careful attention. Address,

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Sandpoint, Idaho

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are self-cleaning, as the cover sits inside the fire-pot; the liquid creosote runs back into the fire and burns up. The valve in the bellows gives you a Smoker with life.

Smoke Engine	4	inch stove	-	$1.25
Doctor	3 1-2	" "	-	.85
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Little Wonder	2 1-2	" "	-	.50

Two larger sizes with metal legs and hinged cover. In copper, 50c extra.

Parcels Post shipping weight, 2 pounds each. For sale at your dealers or direct

A. G. WOODMAN CO.,
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Tennessee-Bred QUEENS

41 years' experience in Queen-Rearing Breed 3-band Italians ONLY

I am at last up with all contracts, and can fill orders by return mail—2 to 5 dozen daily. Prices remainder of season:

Untested, one for 75c; six, $4.00; twelve, $7.50. Tested, double these prices. The very best BREEDER, $10; Select breeder, $5.00. Write for prices on larger orders.

John M. Davis, Spring Hill, Tennessee

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Now you can get what you want and have it ready when you need it.

Prices Now are Naturally Lower than they Will Be Later

We not only name low prices, but furnish high grade goods as well.

We have been manufacturing Hives, Frames, Sections, Shipping-cases, etc., over 15 years, more than 10 years under the present management.

We have satisfied others, and we will try to please you.

Mail us an itemized list of what you want, and we will quote you.

We want to save you money.

Minnesota Bee-Supply Co., Minneapolis Minnesota

American Bee Journal

(Entered as second-class matter at the Post-Office at Hamilton, Ill., under Act of March 3, 1879.)

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C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., NOVEMBER, 1913 **Vol. LIII.—No. 11**

EDITORIAL COMMENTS

The New Scheme of the Two Doctors

The article on another page by Dr. Bonney cannot fail to attract attention. It is quite a coincidence that two beekeepers, each a physician, and each independently of the other, should have conceived the same idea. They are alike, too, in the fact that neither one has carried out this scheme so fully as to be entirely sure of its success. In Gleanings in Bee Culture for Oct. 1 is the article by Dr. G. A. Humpert, which is so closely resembled in principle by the article of Dr. Bonney that it might be supposed Dr. Bonney had been guilty of plagiarism. Such a thing, however, is entirely precluded by the fact that Dr. Bonney's article was received before the publication of Dr. Humpert's article, even supposing Dr. Bonney capable of plagiarism.

Dr. Humpert has devised a special machine for cutting out the plugs of honey, and then, just as Dr. Bonney, he puts them in the sections to be fastened in by the bees. He found them fastened into the section-frame within 24 hours, but not so well as in 36.

Only after a thing is fairly tried *by the bees* can any one be sure of its success or failure, and it might be well to suspend opinion until after another harvest gives opportunity for trial by all who are interested. Yet one would hardly be a beekeeper without discussing in advance anything in which such possibilities seem involved.

Very prominently, in the minds of many, will stand forth the thought of the much larger amount of honey produced in extracting frames as compared with sections, and then if we can have the extracting combs turned into sections by spending 15 to 30 seconds upon each section and submitting them to the bees for less than two days' time, we have made a great gain, unless, indeed, the revolution should be so great as to bring down the price of comb honey to the level of extracted. Dr. Bonney says: "The bees will produce more honey in extracting frames than in sections." That's putting it very modestly. It is generally believed that 50 percent more extracted than comb can be produced. At any rate, there is generally a difference of at least 5 cents a pound between the price of comb and extracted. Now if by spending a quarter to half a minute, or even a full minute, on each section, we can gain that 5 cents; it's well worth while. Five cents a minute, or $3.00 an hour, is pretty good pay.

But a special factor in the case is likely to be overlooked. It is true that 50 percent more extracted than comb can be produced, but that is because with extracting combs the bees are saved the time and labor of building combs. Building entire combs and filling them is altogether another affair. Indeed, some might dispute whether bees build and fill combs any faster in frames than in sections. Others would say there is a difference, but the difference is very small. It is pretty clear that the extracted-honey argument must be thrown out of court.

The thing that remains is that with the new plan there will be no question as to sections being entirely filled with honey, and evenly filled; no half-filled sections when a flow stops. Some one will reply, "I get sections beautifully filled with the old plan, fastened in probably better than by any other plan, and have no more unfinished sections at the close of the season than I want for baits the next year." Such a beekeeper may not care to try the new plan. But all are not so fortunate. Dr. Bonney says that with him "the percentage of unfinished pieces was appalling, to the extent that I quit producing section honey." To him and others like him the next harvest will give opportunity for a full test.

Watch Your Second-Hand Cans

We have just received a letter from Mr. J. F. Diemer, of Liberty, Mo., in which he states that he purchased some honey from a commission house. The honey was put up in 60-pound cans, which were bright enough on the outside, but from the sample of tin sent us, were about "the worst ever" on the inside. Mr. Diemer stated that besides the rusty cans, there were so many bees, etc., in the honey that it was easy to tell that the producer was one who leaned towards black bees rather than Italians. Of course, this shows a careless beekeeper.

There are, however, many up-to-date beekeepers who put their honey in second-hand cans. It is regrettable that in some instances the proper precautions are not taken to make sure that the cans are bright inside. It is too bad to spoil high grade honey by packing it in a rusty can. It is bound to spoil the color and the flavor.

Do not necessarily give up the use of second-hand cans, but watch these

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cans carefully and "fire away" anything which looks the least rusty inside.

With the Editor in Sunny Southern France

When this letter is published in the Bee Journal we will have reached home. Yet it is written in the southwestern corner of France, some 6000 miles from home.

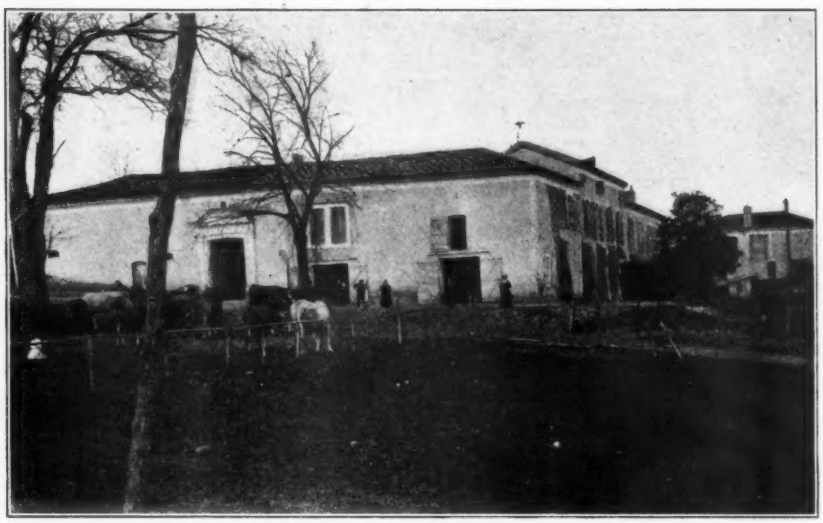
Some of our friends will perhaps wonder why we do not give successive and detailed accounts of all our travels. We propose to do it, for many of our readers have asked us for a full story of our trip. But it will be done only after we have reached home. We must be content now with a mere glimpse of some of the things we see.

This part of France is not far from Bordeaux, the country of vineyards and of the noted claret wines, the home of the warm-hearted and hot-blooded Gascons; close to the native heath of Cyrano De Bergerac, the famous hero made immortal by the pen of Rostand, in his half comical and half tragical play of the same name.

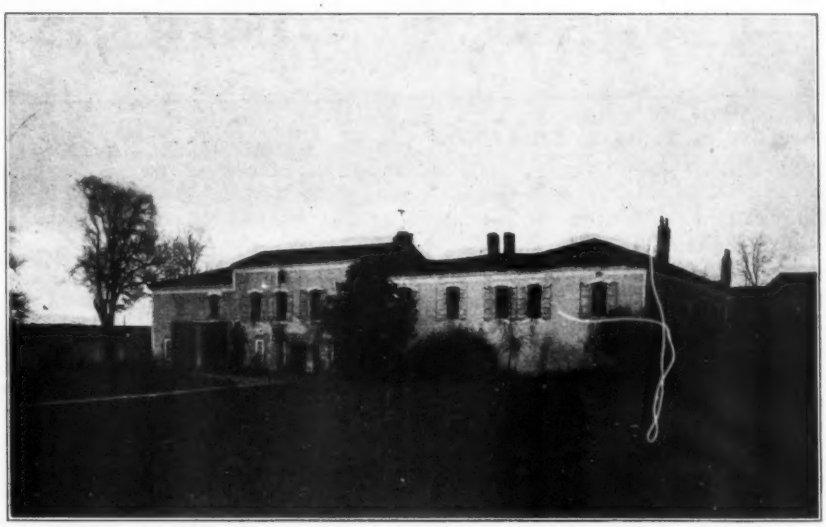
The country is rich, the valleys beautiful. The house from which this letter is written is an old castle, perhaps 500 or 600 years old. It is not a feudal castle with towers and battlements. Those evidences of the dark ages have been torn down many years ago, and the building is just a plain quadrangle with an inner court, a big porte-cochère stone column at the garden entrance, and a pretty avenue 1600 feet long, with trees on each side, leading in a gentle slope to the big automobile highway which crosses the plain below. This is the home of Mr. Couterel, the gentleman whose home apiary was pictured in the American Bee Journal of May, 1913. If you refer to the number in question, you will see by the orderly arrangement of everything that this gentleman is careful and neat. The house, though very old, with worm-eaten doors and rusty hinges is comfortable and hospitable on the inside, and everything has been done to make our stay pleasant. After 40 or more stops in various hotels, in noisy cities, along roaring streets, it is an indescribable pleasure to find one's self in absolute quiet, and to be able to sleep with only an occasional rooster crow in the distance to wake you.

It is hardly worth while to speak of the apiary which has been already shown. Mr. Couterel is very practical, uses our system of extracting supers, has his apiary well enclosed and well sheltered, and keeps his hives about 18 inches from the ground on platforms which rest across timbers laid flat. His bees are all of the common sort, but I believe that I have succeeded in inducing him to try the Italians, which have more value to me today than ever.

This is a good country for bees, for these fertile hills are close to the heather lands; so close in fact that we could ride there in a half hour; and so that Mr. Couterel's bees gather much



A View of the Pusocq in Gascony, Where Mr. and Mrs. Dadant Visited the Last of September—the Barnyard.



In the Land of the Heather and the Cork-oak.—Another View of Pusocq.

honey from this great honey plant in the latter part of the summer. As most of my readers have never seen heather lands, they will be as much interested in them as I was, if I can only describe them in a sufficiently interesting fashion.

I had often heard of the "landes" of Gascony, but thought them low, sandy plains. They are rolling hills instead, and extend for scores of miles from here to the Gulf of Gascony.

The growth upon the "landes" is confined to numerous ferns, scrubby pines and cork oaks, with a very thick undergrowth of heather. Just now the heather is in its fullest bloom, and there are perhaps 20 different varieties, from the palest pink to almost red and deep yellow colors. It is a mass of flowers upon which the bees work from June 15 until frost. Frost in this region is very late, usually not until November. So we may readily call this the Eldorado of bee-keeping. There is only one dark side to the picture, the heather honey is dark in color, a deep amber, strong in flavor, and almost impossible to extract with the honey extractor. Here I ascertained positively that which I already suspected, that when speaking of nectar containing 75 percent of water, we should confine ourselves to the nectar of our moist prairies. I am told that much of the nectar harvested from heather, in this dry, sandy soil, is too thick at the end of the first day to be thrown out readily.

Mr. Couterel and his partner, Mr. Lanssucg, have an out-apiary right in the center of the heather land, and thither we repaired in a two-wheel cart, my wife sitting on the front seat by the side of our host, and myself in the back, while Mr. Lanssucg rode a bicycle. Bicycles are about as plentiful here as ox-carts, and the ox-cart is the principal vehicle. It is quite interesting to an American to see 2000 feet of pine lumber on a two-wheel cart, and drawn by a yoke of oxen, or even of cows, who balance the load and pull it with ease.

But let us reach the heather, through a beautiful straight road such as you

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see mainly in France. The trees are sparse and scrubby. The pines are all blazed for their sap, with a cup of some sort at the stump to receive the flow, which is poured into barrels and taken to the turpentine distillery, which I will describe in some other number; for it is also a honey and wax establishment.

The oak trees (cork oaks) are stripped of their precious bark once in about 10 years. Those which have been stripped this year have a reddish appearance, as if they had been painted. The bark removed is only the epidermis, so to speak, and the tree does not suffer much from its removal. In fact, after a year or two, when the bark has grown on again, the trunk looks smoother and cleaner than the upper limbs, for the old cork bark, which is never removed from the limbs, but only from the lower 10 or 12 feet, looks like the hide of a crocodile, or worse. This cork bark is hauled to a cork factory, a short distance away, and enters from there the channels of commerce. I was informed that the cork oak did not orignally exist in very large numbers in this region. It was planted there. In many places this fact is evidenced by the rows of trees which could not have grown so regularly in the natural way.

So the "landes" of France, which were once useless and barren, are now giving three crops which are quite profitable, turpentine and rosin, cork and honey.

We reached the out-apiary, situated away from the village, and surrounded simply with a high screen fence. I enquired whether they did not think the place rather in danger from thieves, but they explained that bees are plentiful all through the heather plains, that they are mostly in wicker baskets covered outside with cow-dung and clay, and that no one needs be afraid of honey thieves when honey is so plentiful. An hour or two later, at dusk, we rode to a primitive apiary, also located in the midst of the heather, containing about 100 hives (or rather baskets), and the bees had evidently harvested a good crop that day, for each hive was emitting a low roaring sound of ventilation and contentment, such as our own people have heard when white clover is in full bloom and the day has been fair.

This seems to me the ideal spot for bees. The peasants, who do not know anything about modern systems, still brimstone the old colonies every fall, keeping only the swarms, for they think they are thus keeping "the young bees." It is useless to tell them that the old queen goes with the swarm. They know better, and shrug their shoulders. Each brimstoned colony brings a return of about $20 at the factory above mentioned. As to the bees, if you want them, they will drive them out for you, and give you the naked swarm for 50 centimes, 10 cents of our money.

The Couterel out-apiary has two very interesting features, the hive-stands and the hive-roofs. The stands are round slabs of re-enforced concrete, 25 percent concrete mixed with 75 percent river gravel, with 4 wire hoops and 8 crosswise on the inside. The dimensions are 4 inches in thickness and 3 feet in diameter.

The roof is another slab of cement. But this is only about ¼ inch in thickness, and made of cement and asbestos (amiante in French). If any of our readers have ever seen the artificial slate manufactured by the F. W. John's Mfg. Co., in our States, they will have an idea of the strength and lightness of this sort of roof, which is made in sheets about 25 inches square and very fine. They cost here 17 cents each delivered at the station by the factory. One can have no idea of the neat appearance of an apiary thus supplied.

During our visit, a friend of our host, an amateur photographer, was kind enough to come and take our photographs in three different spots. We do not know whether these will reach home in time to be published with this letter. But the reader will lose nothing anyhow, for we expect to publish dozens of views which have been taken by friends in different parts.

We are getting badly spoiled, for we are welcomed and feasted, and invited and complimented everywhere. We did not realize that we could find so many friends in Europe. C. P. D.

IN THE LAND OF THE HEATHER—ANOTHER VIEW OF THE PUSOCQ.

Plurality of Queens

We call the readers attention to the articles in this number by Mr. Hand, Mr. Wood, and Dr. Miller, criticising the article by Edward F. Bigelow, in the October number.

Mr. Bigelow put forth the theory that very probably there was more than one queen that went with every swarm, and that nature had a purpose in supplying a plurality of queens for these swarms.

We feel very sure that Mr. Bigelow's experience has been with a limited number of colonies. and we have no doubt but that these colonies cast several swarms in the same season; that is, they sent forth a prime swarm and several after-swarms.

He intimates that if a swarm has but one queen, and this queen were lost, the swarm would perish. He loses sight of the fact that this swarm would have the alternative of perishing or returning to the hive from which it issued.

All well-informed beekeepers will agree that *some* swarms have more than one queen, while the most of us will also agree that there are many swarms which have but a single queen. Especially is the latter true where swarming is well controlled.

Where, then, is the dividing line between the swarms with a single queen and those with many. *Almost invariably prime swarms issue with a single queen.* Exceptions may be allowed as pointed out by Mr. Hand. *Secondary and last swarms may be accompanied by more than one queen.* The writer has in mind one instance when not less than seven virgin queens were found in one cluster. There are of course many instances where even the secondary and later swarms have but one queen. One of these is where the parent colony provides but two or three queen-cells to take the place of the old queen, which issued with the prime swarm.

The photographs given in the October number evidently are those of a last swarm. These often cluster in different places, and each cluster is usually so small that the whole, when put together, is too weak to form a good colony.

The articles in this number give a very good reason why drones go with a prime swarm. Any one at all acquainted with the habits of the drone recognize his fickleness, his aptness to make friends with any cluster of bees.

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Our Cover Picture

Mr. R. H. Longworth & Son, of Polk City, Iowa, had a very fine exhibit of bees and honey at the Iowa State Fair. A partial view of it is given on our front cover of this issue. From one of the most backward States as regards making herself known in a beekeeping line, Iowa is fast taking the position she deserves. Under the leadership of her State Inspector and others there is no reason why this progress should not continue at a rapid rate.

MISCELLANEOUS NEWS ITEMS

W. D. Wright Writes New York State Bulletin.—"The Honey Bee" is the title of Bulletin No. 49, gotten out under the direction of the New York Department of Agriculture. The bulletin was written by Mr. W. D. Wright, of Altamont, and is very excellently gotten up and finely illustrated. No New York beekeeper should be without a copy of this bulletin. It deals not only with the natural history of the bee, a study of different bee appliances, but also has a very important chapter for the discussion of bee-diseases, with remedies, etc.

The bulletin also contains articles by leading bee men of the State, and is illustrated by many full-page cuts of different apiaries of New York's most progressing beekeepers.

Deaf and Blind Enjoy Bee Lecture.—Our good friend Mr. J. C. Frohliger, of California, who has had long experience with bees, and who delivers lectures on beekeeping with the aid of 100 lantern slides and an observation hive full of bees, recently had the pleasure of addressing an assembly of deaf and blind. The address was interpreted by the assistant principal of the State institution, and proved very interesting to all the children assembled.

According to a schedule gotten out by the Board of Education of the Oakland schools, Mr. Frohliger is to appear on their lecture platform during the latter part of October. All lectures, of course, are free to pupils on account of their educational value.

New Editor for Western Honey Bee.—The Western Honey Bee for October announces that beginning with the November issue Mr. J. D. Bixby, of Covina, Calif., will assume the editorship instead of Mr. Emerson. Mr. Emerson felt that he had to give up the position on account of locating on a large ranch in another part of the State.

We wish every success to the new editor with the California journal. Correspondence should be addressed to him at Covina, Calif.

Frank F. France Marries.—The editor is in receipt of the announcement of the marriage of Mr. Frank F. France to Miss Caroline Mary Tremelling, which occurred at Platteville, Wis., on Oct. 2. The best wishes of the Bee Journal go with the young couple.

Education is What We Want.—In looking over the University of California Journal of Agriculture, put out by the students of that institution, we were pleased to find in it an article on beekeeping by one of the students. Our pleased expression, however, turned to a frown before the article was half read; as a great many of the statements hardly agreed with our conception of what up-to-date education on these lines should be. The writer confused absolutely the two foul brood diseases. He claimed that in extracted-honey production swarming was prevented because the queen layed all through the supers. He stated that 150 colonies of bees consume a barrel of water every day, etc.

Education is all right, but better none than such as the above.

"Bee King" Found Guilty.—The following was received from Mr. R. M. Guthrie, of Reno, Nev., will explain itself. "Below is a clipping in regard to Mr. C. I. Graham, whom we wish to advertise throughout the country so that he cannot ship any more bees without being recognized. In 1910, he shipped European foul brood in here, and nearly cleaned us out. He shipped in 300 colonies last year, and there were 59 left this spring. He has had honey and diseased combs exposed all summer:"

"Following a conviction before a jury in Judge Davis' court yesterday, C. I. Graham, known as the 'Bee King,' will hear judgment today. He was found guilty of exposing diseased brood combs to the injury of the bees of this valley.

"R. M. Guthrie, bee inspector, instituted the action against Mr. Graham, and went on the stand to testify. He told the jury that the defendant had exposed diseased combs, thus endangering the bees of the entire valley to infection. He said that Graham had been warned against the practice several times, and related that other actions had been brought against him for the offense.

"H. F. Hagen and H. Trickey, both bee men, also took the stand supporting Inspector Guthrie in the testimony. The defendant took the stand in his own defense.

"The defendant is to be tried on a similar charge Thursday, the accusation being that he committed the same offense at a different place."

"Delicious Honey Crisps" Contained Practically No Honey.—The Standard Flaked Food Co., of Owosso, Mich., has been fined $50 for the alleged shipment into Indiana of so-called "Honey Crisps Corn Flakes," which was misbranded, according to a notice of judgment just issued by the Department of Agriculture.

The label on the package described it as "Delicious Honey Crisps; a Toasted Corn Flake Dainty—Guaranteed by the Standard Pure Food Co., under the Food and Drugs Act of June 30, 1906, guaranty filed with Secretary of Agriculture under Serial No. 5165."

This label was considered deceptive, and misbranding was charged because it conveyed the idea that the product contained a substantial amount of honey, whereas analysis showed it to contain practically no honey.

A Tennessee Honey-Plant.—One of our subscribers sent us recently the blossoms of a honey-plant with the request that we give the name. The flower was sent to Mr. John H. Lovell, of Maine, an authority on plants. His answer is as follows: "The name of the species is Verbesina occidentalis (L.) Walt—small yellow crownbeard. It occurs on dry hills from Tennessee southward to Georgia and Florida."

In sending in plants we would ask that our subscribers send not only the flower, but also leaves and fruit or seed if possible, so that the identification can be made more complete.

Another Texas Bee Bulletin.—Bulletin No. 158, of the Texas Agricultural Experiment Station, has as its subject "Investigations Pertaining to Texas Beekeeping." The book is written by three Texas men, Wilmon Newell, F. B. Paddock and William Harper Dean.

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Wilmon Newell, State Entomologist, conducted experiments on "Artificial Division and Swarm Control." The experiments cover the year 1911.

Several colonies were artificially divided, the queen and five frames of brood and bees being put on a new stand, the parent colony being left on the old stand with queen-cells. The crop harvested by both the parent and divide, as well as by colonies which had been left undivided, was carefully weighed. The average amount procured from parent and increase was 114 pounds of extracted honey, while that produced from those not divided averaged 127 pounds, showing a gain in favor of those not divided. There was, however, the value of an extra swarm to be counted in, which would make the results, if anything, in favor of the divided colony.

Mr. Newell also experimented with swarm control. Part of the colonies were controlled by giving increased room, while the balance were controlled by "shook swarming." The former retarded swarming, the latter prevented it almost entirely.

Mr. Paddock has an excellent paper on the "Life History of Bee Moth and Wax Worm." He finds that sulphur fumes kill the grown moth but not the eggs, and very few larvæ succumb. Carbon-bisulphide, on the other hand, kills everything but the egg, so that where combs are exposed a whole season to the moth, they should be treated more than once with the carbon-bisulphide fumes.

"Statistical Study of Beekeeping in Texas," is the subject Mr. Dean takes up. Twenty-eight hundred beekeepers keep in touch with the department. They own a total of 90,000 colonies of bees valued at $434,000. The total production of honey of these beekeepers in 1911 was 2,400,000 pounds. Of this over one and one-half million was bulk honey, and nearly all the balance extracted. The value of wax for 1911 was $8000. Seven hundred and five beekeepers in Texas claim beekeeping as their profession.

The greater bulk of Texas honey is consumed within the State.

A copy of this bulletin may be obtained by Texas beekeepers by applying to the department at College Station, Tex.

Go West Young Man, Go West.—Most of our readers will recall the short editorial in the October number in which the editor described some of the large potato vines he had seen while in Europe. Not to be outdone, Mr. George W. York, former editor of the American Bee Journal, wrote as follows about potatoes which grow in the West and grow and grow and grow:

MR. S. MCCREA AND HIS NORTHERN IDAHO POTATOES.

SOME TALL POTATO VINES.

On page 329, I notice that our good Editor found some long potato vines away over in Europe. I am enclosing a picture of a resident of Sandpoint, Idaho, who had some long potato vines this year, and without irrigation, too. He got a few potatoes, also. On his patch back of the house, 16 by 26 feet in area, he secured 350 pounds of potatoes, or at the rate of 600 bushels to the acre. And some of the vines were over 6½ feet long. Mr. S. McCrea, the grower of these potatoes, is 5 feet and 9 inches in height, so the vines were easily the length I mention. The potatoes he calls the "Early Sunrise." This is a part of Idaho that does not need irrigation. GEORGE W. YORK.

News Item from Minnesota.—The Minnesota Legislature, at its last session, appropriated a certain sum of money for the purpose of "establishing a department of apiculture" in our university. In fulfillment of the requirements of this act, A. F. Wood, Dean of the Agricultural Department, has recently appointed Francis Jager to the chair of apiculture. As nothing practical has ever been done with bees at our Agricultural College, the apiarist will have to "build from the ground up," and for the first year or two this will involve a vast amount of labor and effort. However, Prof. Jager is a thoroughly practical beekeeper as well as an all-around scientist and lover of nature.

Minnesota offers a wonderful field for beekeeping on an extensive scale. We have never had an entire crop failure in the State. Basswood abounds in three-fourths of its area, and with the increase in dairying, white clover is traveling north at a rapid rate.

Now that we have a definite center for the beekeeping industry in our university, where practical and scientific methods will be taught to any one wishing to take up beekeeping, the department invites the co-operation of all beekeepers in building up this great industry in our State. Beekeepers should make it a point to visit the apiarist at the State farm whenever they are in the "Twin Cities," and the office will always be open to correspondence.

Minnesota is going to be heard from in the next few years as a honey-producing State, and information in regard to it can be had by writing to Prof. Francis Jager, St. Anthony Park, Minn. L. D. LEONARD, M. D.

Minneapolis, Minn.

Eastern Illinois Convention.—The next meeting of the Eastern Illinois Beekeepers' Association will be held at St. Anne, Ill., on Dec. 8 and 9. The recent good crop of honey has resulted in a desire on the part of many beekeepers to attend the convention. Bring along your questions and have them answered. Mr. Sorenson, Mr. Sherrill, Mr. Roberts and Mr. Timmon, besides the State Bee Inspector, will be with us. We are making efforts to get the editor of the American Bee Journal to attend also.

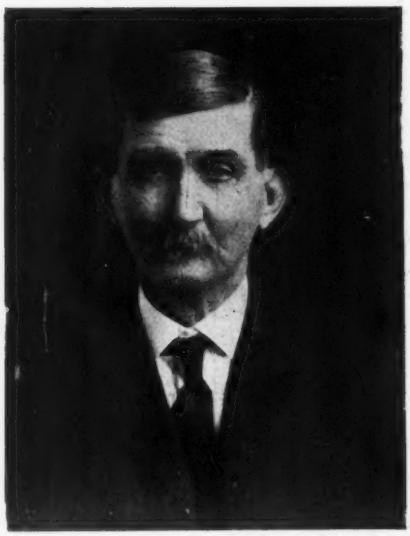
H. S. DUBY, *Sec.*

T. G. WILLIS, *Pres.*

American Bee Journal

Jacob Huffman Passes Away

On Oct. 3, 1913, at Monroe, Wis., occurred the death of Jacob Huffman, one of the leading beekeepers of the State of Wisconsin, as well as one of the most progressive.



THE LATE JACOB HUFFMAN.

Mr. Huffman had always been a man of good health, but early in July he suffered a slight sunstroke while working with his bees on his farm near Monroe. He never fully recovered. He entered a hospital two weeks before his death, and shortly afterward was stricken with paralysis.

Jacob Huffman had been president of the Wisconsin State Association four years, and president of the Chicago - Northwestern Association for two years. He was also the choice of his association as delegate to the National Association in both 1911 and 1912.

Little known as a writer, he was recognized as a thorough beekeeper by all who heard him in lectures and discussions at the conventions.

Wisconsin was his native State. He was born only a few miles from Monroe, to which town he removed in 1901. A carpenter by trade, he was a beekeeper by profession, depending upon this alone as a means of support.

He was operating 300 colonies of bees at the time of his death, and had harvested a crop of 30,000 pounds of honey during the season just ended. His death will be a loss to his associate beekeepers as well as his family. Mr. Huffman was 66 years old at the time of his death.

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Southern Face Bleach

Here is a good bleach which will whiten the skin and help to keep it in good condition:

Pure honey, 2 ounces; almond meal, 4 ounces; bicarbonate of soda, ½ ounce; almond oil, 1 ounce; alcohol, 1 ounce; boracic acid, ¼ ounce.

After this paste has remained on the face for several hours, wipe it off with olive oil, then bathe the face in warm water and pure soap. Two or three applications will whiten the skin beautifully.

Introducing Queens

"I had 5 colonies of mixed bees that I wished to requeen, also one good Italian colony that had lost its queen. I ordered six untested queens and introduced them according to directions. Two days afterward, when I looked in the hives, two of the queens had been released and killed. The next day I found that the queens in the other four hives had been released and were being 'balled' so badly they were almost dead. I put each one back in her cage and introduced her as before, putting candy in the entrance. Then I looked at them not long afterwards, and all four were dead.

"What must I do? I am feeding the bees a good quantity of sugar syrup, and some of the colonies have a good deal of honey. I had carefully removed the old queens, and none of the colonies had any queen-cells, so I am at a loss to know what could have caused them to be so hostile to the new queens.

"It would seem very risky to buy six more queens and introduce as I did when the outcome would very probably be the same. I am a 'woman beekeeper,' and very much discouraged. I bought my bees in the spring, and have worked faithfully with them. Can you help me with some of your good suggestions through the American Bee Journal?"

Mt. Sterling, Ky., Sept. 28.

One of the things in beekeeping that seems to go a good deal by luck and chance is the matter of introducing queens. It is just possible that you might try introducing another six queens in exactly the same way, and make an entire success at it. Very many ways of introducing queens have been advanced, each one a "sure thing," only to be found more or less uncertain in the hands of others. Of course, there must be reasons for success or failure, and if we only knew all about those reasons we could make queen introduction a matter of certainty instead of a matter of chance. Unfortunately we don't know all about them, and so must work a good deal in the dark.

There are, however, some things that should be understood by any beekeeper who has to do with introducing queens; and introducing queens is one

J. M. BUTLER, OF RUPERT, IDAHO, EXAMINING HIS BEES.
The queen in the colony open was named Yellow Rose of Texas, on account of her prolificness and beauty.

of the things that every bee-keeper should have to do with who expects to be well toward the front rank. It may be well to recite some of those things that we know—or suppose we know.

Young bees receive a new queen more kindly than old ones; it seems to be the field bees that object to the new comer. A strange bee will be more kindly received when bees are gathering freely. In the midst of a heavy flow a queenless colony will sometimes receive a new queen kindly if she is merely dropped without any ceremony among the bees on the middle of a frame of brood. One of the most important things in the estimation of most beekeepers, is that the new queen shall acquire the "hive odor" of the colony to which she is introduced by being imprisoned for a certain length of time in the hive. Whether this theory of "hive odor" be correct or not, it is true that a queen will generally be killed if the bees are able to get at her as soon as she is put in the hive, and just as sure to be received if imprisoned safely for several days.

A colony should be conscious of its queenlessness before it is ready to receive another queen—at least that is the general opinion—and if queen-cells are started it is well enough to have

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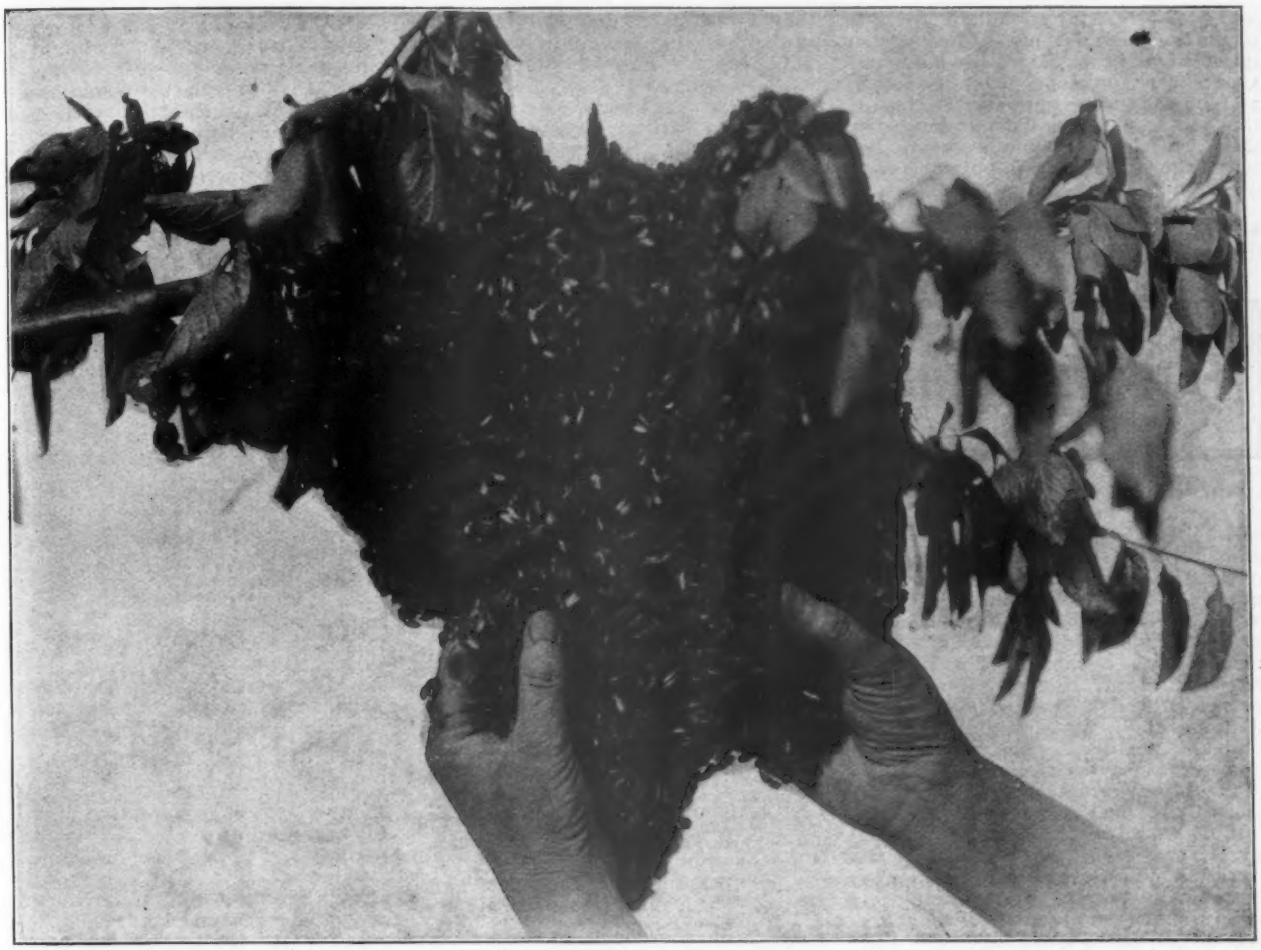

As the old lady said in passing the candies, "Take a lot, take two—handfuls."

them out of the way. It is not best to have a colony queenless too long—possibly two days being better than two weeks, although the new queen may be in the hive before the old one is removed, provided the bees cannot get at her to harm her until after the old queen is gone.

With these principles in mind—which are put forward with none too much confidence as to their completeness or correctness—we are ready to consider actual practice. You do not say what instruction accompanied the queens, but a common way is to instruct that the old queen be removed and the cage with the new queen be placed between the frames or on the top-bar, allowing the bees to eat out the candy, thus liberating the queen. That might mean that the queen would be out in a day, two days, or longer, depending somewhat upon the condition of the candy, the softer the candy the sooner the release. If no honey were coming in, feeding would ensure greater safety. It is possible that failure would have been avoided if the queen had been longer in the hive before being released. You could make sure that the queen would not be released for 3 or 4 days or longer. Tack on a piece of tin, or in some other way prevent the bees from getting at the candy. Then, after the cage has been in the hive 2, 3, or 4 days, remove the tin and let the bees free the queen. That would make introduction safer, as the queen would have more time to acquire the hive odor.

Indeed, many queens have been introduced in that way with rarely a failure in this locality. The queen was merely left fast for 3 days in the cage between the combs (in the height of the harvest the cage was stuck into the entrance), and then the bees were allowed access to the candy. A few days after time for the queen to be out of the cage—perhaps a week after, but before time for young queens to hatch from queen-cells started on the brood—examination was made to see if the queen was laying. Often queen-cells would be found at this time, which were destroyed. Possibly the bees might have destroyed them on their own account, but no chances were taken. Sometimes it happens that the queen does not lay until she is out of the cage a week or so, and then does good work; but in most cases when she is so long about it she turns up missing a few days later.

There is a way of introducing a queen that is entirely safe and certain. Take combs containing brood that is mostly or entirely sealed. (If the combs be put over a queen excluder above a strong colony for 8 days, all the brood will be sealed.) Put 3 or more such combs into an empty hive, being sure to brush from them every bee. Put in the queen, and close the hive absolutely bee tight. Put the hive where it will not be cooler than about 80 degrees. This may be in the house, but perhaps a better way is to set the hive over a strong colony, with wire-cloth between the two stories, so that the heat may come up from below without letting any bees up.

After 5 or 6 days the hive may be put on a stand where it is to remain, and to avoid robbing let the entrance be so small for a few days that only one bee at a time can get out or in. Then the colony can be gradually built up by the addition of sealed brood from time to time. Although entirely safe, this plan is too troublesome to be used with any except a very valuable queen.

Another way that is not quite so safe is very much less trouble. It is to use the plan generally given in the instructions that come with the caged queen, only to get all the older or field bees out of the hive, remembering that these older bees are the ones that make trouble. How will you get all the field bees out of the hive? Very simply. Let A be the hive that contains the colony that is to receive the queen. Take a frame of brood from A, or from some other hive, and put it in a hive we call B. It doesn't matter much what is done with the empty space in B, but it may be well to put the frame of brood at one side of the hive, putting 2 or 3 empty frames next to it,

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without even a starter in them, the rest of the hive being empty. Take A from its stand and set B in its place. If supers were on A, put them now on B, and put the cover over all. On top of this set A with its bottom-board, so there will be no communication between the two hives, and put the caged queen in A.

Now what will happen? The field bees will leave A for the fields just as if no change had been made, and when they come back they will enter the same *place* they have always entered, only they will enter a different *hive*, for they will now enter B, leaving A without any field bees. After the queen has started laying nicely in A, perhaps 4 to 6 days after the hive was put up, A may again be put back in its old place. The queen being now surrounded by a strong force of friendly bees will not likely be disturbed by the returning field bees.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

A Visit to M. W. Harvey

Early in August I visited one of the apiaries of Mr. M. W. Harvey, of Montrose. He was at work, and his automobile stood beside the honey house covered with a canvas. This is characteristic of Mr. Harvey. Everything he has is well cared for. The apiary contains about 190 colonies, and is a model of neatness. One trouble Mr. Harvey was having along with nearly all the other Colorado bee men during August, the bees were swarming, and nothing would retard them seemingly. Mr. Harvey said that seven out of every ten colonies were preparing to swarm. But he was pretty well prepared for the emergency, for he had a number of extra hives, full depth, and nearly full of honey. When he came to a hive that had queen cells well along, so that there was little chance that they would give up swarming, he would shake the swarm, or a good proportion of them, into one of these extra hives of honey, and put the supers from the old colony on top. The bees would have to move a lot of that honey upstairs into the comb-honey supers to give the queen room to lay, and the way they finished up the honey was a sight to see. I know, for I tried a number of them myself. I hived the swarms, however, back on the old stand into the extra hives, and put the supers on top.

The old colony Mr. Harvey would move away and cut out the queen cells. When he shook the swarm he would run the queen in at the entrance. The photograph given shows Mr. Harvey looking for the queen.

The Honey Market

The buyers of western comb honey have been fearful for several weeks lest the crop of comb honey should be larger than reported. Each buyer has delayed buying for fear he might pay more than the market would be a little later. This is right so far as each individual buyer's interest is concerned—every man must protect himself. However, this principal has worked an injury to the honey market this year, for the comb honey crop in parts of the West has been larger than usual, and the buyers have bought less than usual.

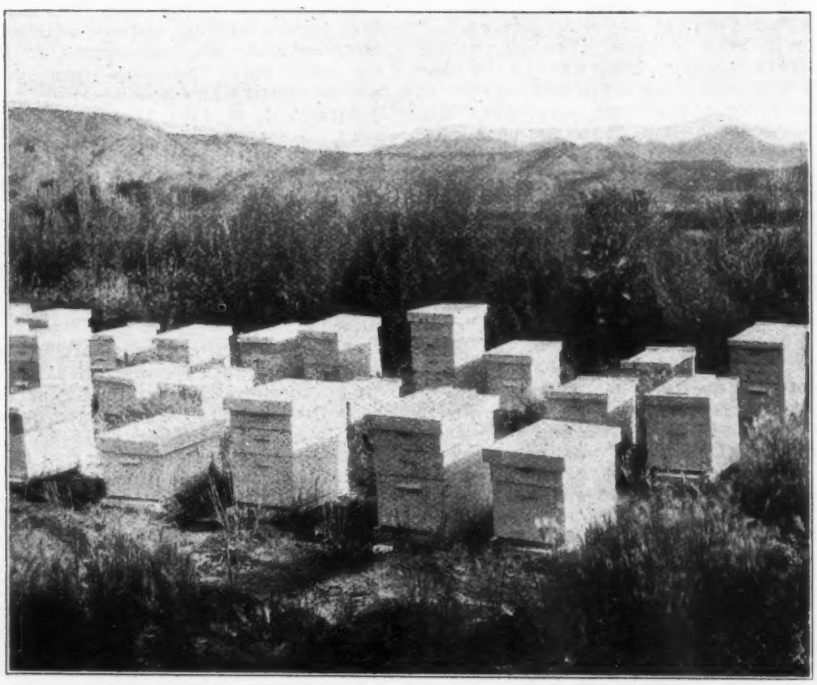
Some buyers bought honey in Idaho early at $3.00 a case for comb honey, which is considerable more than $3.00 a case at Colorado common points, freight taken into consideration. Some of them are sorry that they paid so much, for they can buy for less now (Oct. 7).

Several cars of comb honey were shipped out at $3.00 and a little better, for No. 1, from Colorado. Then the price dropped 15 cents a case, then it went to $2.75, and some honey has been sold at $2.50 a case for No. 1, I believe. And this has happened with no appreciable shading in price upon the main honey markets.

Several weeks ago one market reported two cars of western comb honey having arrived and the price had dropped. Two cars of honey on such a market should not appreciably affect that market.

A letter from a beekeeper who sells in this same market, informs me that he never saw it so bare of comb honey at this time of year. He told me that if he were in my place he would hold comb honey until a little later.

This holding off in buying comb honey when the markets need it is very injurious to the comb-honey business. The producers and dealers should be able to get together better, but both seem to distrust the other, and as a consequence we are likely to see large quantities of granulated comb honey on the markets next spring and early summer. And this all because of faulty methods of distribution. The crop is not enough larger than in normal years to cause any serious trouble. However, there are small districts where the production is twice as heavy, and the producers get frightened and cut prices, and the buyers get frightened and refuse to buy.



PARTIAL VIEW OF M. W. HARVEY'S APIARY IN MONTROSE CO., COLO.

Disposing of Wet Extracting Combs

It is poor policy to put out wet extracting combs for bees to clean up. In the first place it is likely to induce robbing, and in the second place it is an easy way to spread foul brood if there is any in the community. But if we have American foul brood little extracted should be produced anyway. How are we to get these combs cleaned up in the fall? By using care it can be done. Carry out a few supers full of the combs in the evening, first contracting the entrances of those colonies selected to do this cleaning. Only those that are strong should be entrusted with this work.

Place the supers on top and be certain no bee can gain entrance through any crack or hole. Any honey daubed on the outside of the extracting supers should be carefully washed off. By

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M. W. HARVEY LOOKING EOR A QUEEN.

the next morning a strong colony will have cleaned up a lot of the combs, and if the work is not all completed the bees will be so prepared that they can repel any onslaught of robber bees. November is too late for this cleaning up work except in some of our near southern States.

Here in Colorado we quite often have weather in November when such work can be done, but September and October should see most of the extracting work out of the way.

SOUTHERN BEEDOM~

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Texas Honey Crop Conditions and Marketing

The great Lone Star State has had an unusual year. The spring prospects were very promising, and beekeepers everywhere were jubilant. A little later, weather conditions turned anything but favorable for the best welfare of the bees, and as a consequence the colonies were in a weaker condition by the end of April than four or five weeks previous. The long drawn-out cold spring weather not only effected the bees but the honey yielding and pollen bearing vegetation as well. For this reason the early spring honey crops were a failure except in a few localities where light crops were obtained. Generally speaking, however, there was no Texas spring honey crop this year.

SUMMER CROP WITH A RUSH.

The early summer crops came at about the same time in most of the southwest Texas localities, resulting in a rush of honey to market a little later in the summer that caused a slump in the market. This is a thing that we have not experinced as long as I can remember. There was no spring crop to fill a demand that existed, and the early summer crop brought good prices. But when the later summer crops came with a rush everybody wanted to sell, and, as a consequence, it appeared that the country was flooded with honey. This was felt not only by the buyers but the beekeepers as well.

CUTTING PRICES HARMFUL.

The result was that some of the anxious beekeepers cut prices in order to get their honey off their hands. Other beekeepers were compelled to sell their honey in order to pay debts, while still others feared granulation of their product before being able to dispose of it. This was bad for the better beekeepers who held their honey and desired to maintain a consistent market price. The buyers became aware of the fact that some beekeepers were making a lower price and took advantage of it. Whenever honey is offered anywhere in the market at a low price, it has a tendency to establish a lower price for the entire honey market.

BUYERS FEAR BUYING.

Under these conditions the buyers fear placing their contracts for honey, because they fear that others may buy at a lower figure. Such deals might mean a big loss. Consequently they prefer not to have anything to do with honey. At a staple price these large wholesale dealers are in splendid position to distribute large quantities of honey. They have their own traveling men who cover the territory well, and this enables them to sell to a great number of retail dealers over the country. Of course, they must figure on just so much profit over the price paid the beekeepers or they cannot afford to handle it.

A great deal of honey was sold early in the summer at a very fair price. But for the above reasons this fair price would have continued, I believe, and there would have been a much more steady sale of honey throughout the later summer months and in the fall. There is no reason why there should have been a slump in the Texas honey market this year, and very little reason why the price should have come down on an average of 1 to 1½ cents per pound. The quantity produced did not warrant it.

MANY SMALL BEEKEEPERS UNFAIR.

The worst evil in the honey market seems to be the small beekeeper who insists on selling his honey direct to retailers at exactly the same price, if not a lower one, than that being paid by the wholesale buyers. The price to the retail trade should be correspondingly higher than the wholesale price, if the beekeeper wishes to sell some of his honey direct to the retailers. Very few do this. Our own experience in selling much honey direct is that many beekeepers quote a lower price to our own customers very often, and the result is that we are asked to meet that lower price. The same occurs with the large dealers. It is difficult for these to meet a lower price when they have

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paid this same price for the honey they are offering.

SHOULD SELL TO LARGE DEALERS.

All small producers, all those who are not in a position to sell large quantities of honey direct to the retail trade at the prevailing price, should sell their honey to the large buyers who ARE in position to sell it properly. I know of a great many beekeepers who seem to be anxious to sell direct to retailers, and thus work up a market of their own. This is all right and good provided certain rules regarding the proper price, etc., are not overlooked. But most of these beekeepers sell at exactly the same price that is being paid by the large buyers who sell again, and thus they come in direct competition. Also many such beekeepers sell what honey they can at this low price, then try to sell the rest to the large dealers. They are nearly always dissatisfied at the price offered.

EDUCATION IS NECESSARY.

A great deal of good would come of properly educating the beekeepers to market their honey. There are many excellent beekeepers who know how to manage their bees to make big crops of honey, but who do not know how to dispose of the crop after it is harvested. Many beekeepers are not "cut out" for selling profitably what they are able to produce. They ought to sell to the large buyers who sell again rather than try their own hands at selling direct and run the risk of making a botch of it, not only to their own detriment, but to that of all the beekeepers of the section. It is an easy matter to bring down the price of the market by carelessly selling honey at too low a price.

BEEKEEPERS' INSTITUTES.

I know of no better way to reach beekeepers, especially those beekeepers located on our farms and "in the neck of the woods," than by holding institutes in every community where several beekeepers are located. "Farmers' institutes" are held everywhere in the country. They are very popular and do much good. Beekeepers' institutes could be made just as profitable, and would mean much for the betterment of beekeeping. The advantage of such institutes is that they can be held wherever a small number of beekeepers can be brought together. After being organized, frequent meetings should be held, especially during those seasons of the year when the discussions will do the most good. Good programs and interesting speakers make these valuable.

CANADIAN BEEDOM

Conducted by J. L. BYER, Mt. Joy, Ontario.

Drouth Affects Beekeeping

At this date (Oct. 13) we are still having a prolonged drouth in this part of Ontario. Much winter wheat, sown in September, is still dormant in the ground, and fall plowing is held back. How much this drouth will affect beekeeping interests is hard to say. At best there will be a light stand of clover for next season, and such a condition does not help it any. Any alsike that weathered the extreme conditions of midsummer, appears to be looking fairly well, but, as intimated, alsike fields in our locality for next season are like hen's teeth, few and far between.

Shall We Investigate?

I read Prof. Bigelow's article, on page 348, with much surprise. Indeed, if the Professor was not so well known as a writer, I would have passed his ideas along without any comment, believing that the thoughts suggested were from a beginner, and that the author would soon find out that it is a rare thing for more than one queen to issue with a *prime swarm*.

As to his question, "Tell me why those drones go out with the cluster if only the old mated queen leaves the colony." I would ask him in turn to tell me why everything in the hive that is able to *walk*, let alone fly, will rush out in force while under the magic spell of the "swarming fever."

Sometimes in cases of supersedure of the old queen, a young queen—perhaps more than one—will come out with the old one at swarming time. Sometimes when strong colonies are held back with bad weather after starting queen-cells, young queens will emerge with the first swarm along with the old queen.

Prof. Bigelow says he will not be convinced that he is wrong until we prove by careful examination of every cluster. He even wishes us to sift the bees through queen-excluders to make the matter positive that there is only one queen. I only wish some other questions, not so clear to my mind, were as easily settled.

North or South—Which?

Sometimes, in common with other mortals, the writer thinks that there are other countries more favored, climatically, than his own. These views are, of course, only "periodical," for at nearly all times I would say and *believe* there is no better place on earth to live than Ontario. Of late I have been thinking along these lines more than ever. Our country is as good as any for beekeeping when *all* things are considered. There may be places where more surplus is produced, but in most of those places prices are not as good as they are here. Then, again, in many of these "paradises" there is more work, as warm weather makes it a continual fight with moths, etc., which bother little in the North.

Too Much Rosiness

In the Ontario Agricultural College Review, a journal published by the students of the Ontario Agricultural College, there appears in the October number a splendidly written article by Miss Scott, entitled, "The Golden Honey Bee." While I know the writer personally, and feel that she is writing sincerely and correctly according to her experience, yet I cannot help making a mild protest. In my estimation, her picture of beekeeping is altogether too rosy, as it is apt to lead people to go into the business as a "get rich quick" proposition. One sentence strikes me forcibly, "Why so much need be said in favor of beekeeping in order to 'boost' it, is a mystery." I may be pardoned for asking why so much "boosting" is being done—who is demanding it?

Is the "boosting" being done by those already in the business? Is such boosting in the interests of the honey-producers in general. Miss Scott says: "Taken from a financial standpoint it is far ahead of—well, everything." Pretty broad statement, and apt to mislead some who have visions of becoming millionaires. "In one season we can buy our bees and outfit and make enough from them to pay all expenses and have twice as many bees with which to begin the following year." By "expenses," she means paying for all bees, etc., as this is made very clear in a sentence further on in the article. I have no idea of questioning that Miss Scott has been able to do this during the past few years in a favored locality, and with good crops three years or more in succession, but is that estimate a fair one, taking the country in general? It certainly is not for our section, nor for the greater part of Ontario. In most years, if we made the increase intimated, the surplus would be easily cared for. If instead of "one year" the term "some years" were used, I might not object to the claim, as this year the claims made would be substantiated in many parts of southern Ontario. But even this year we have some 300 colonies 100 miles north which have barely paid expenses. How would her rosy view measure up with a crop of that kind?

I fear that some who do not know me well, will think I am selfish, but I assure you that I am an "easy mark," as many can testify. I am always ready to give encouragement to any one when it comes to bee-keeping, but I *do object* to things being painted too rosy, for it will do no good to the industry. It will lead beginners to invest only to be disappointed.

A few days ago I received a private letter from a good friend "over the line," a beekeeper known all over the country. I had never mentioned the subject under discussion to him. What he says is from the viewpoint of an outsider, and therefore independent

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and unbiased. I cannot refrain from quoting from his letter. After referring to what I had to say recently in Gleanings in Bee Culture about 300 members being added to the list of the Ontario Beekeepers' Association during last year, he says: "How many of the 300 would have been in the business if certain people had not been so solicitous in inducing them to engage in honey production? Don't misunderstand me; I am not opposed to anybody engaging in the bee-business if they come in of their own volition, but to have some one shouting at the top of their voices, 'Come on boys, there is another barrel of molasses busted; all get shingles,' doesn't appeal to my sense of fair play."

Work in the Apiary Practically Ends in October

After Sept. 15, our combs are safe from moth, and they can be piled up inside and left until next June, as with hard freezing weather even the eggs layed in the combs will be killed. The work of the beekeeper in the North practically ends in October, and nothing to speak of is done until the following May. While I often long for the hum of the bees during the winter months, the chances are I would not appreciate their humming as much as I do in the spring, if I heard them all the time. It is a fact that change brings enjoyment, and if it were always warm we would not appreciate the balmy spring days as we do.

Judging from reports, bees in the North actually consume less stores than in the South, where there is no loss from cold weather. I imagine I hear some fellow down South saying, "A case of sour grapes," and perhaps in less than three months I may long to be on some plantation away from the chilling winds of our winter.

Feeding

Have you finished all necessary feeding yet? The work should be all done before this appears in print, but if you have delayed the matter this long, feed at once, as every day makes the results more uncertain. For late feeding, an inverted friction-top pail, with several holes in the lid, is the very best feeder. Many bee-keepers are now using it altogether, regardless to season. The cans are easily obtained, easy to prepare, and bees will take warm syrup from them, even if the weather is cold, as the pail comes in direct contact with the bees, and it is easy to make all snug around it.

CHAIN-DRIVEN, TWO-CYLINDER REO AUTOMOBILE OF WESLEY FOSTER.
100 empty supers or 24 colonies of bees may be hauled. Convertible pleasure and utility car

BEE-KEEPING IN DIXIE~

Conducted by J. J. WILDER, Cordele, Ga.

Did I Pass On Them Properly?

Not long since I was called on to answer a question asked by three different interested people from different parts of the country. A young man asked me in person if he could make $20,000 keeping bees. I told him he could if he would make it a strictly business proposition like successful business men in other lines.

One wrote me and asked if he could make a $50,000 salary from the returns of bees. I wrote him that he could, if he were naturally gifted that way, and would perform his task as well as his bees under good and skillful management.

Yet another wrote and asked me if his son could make $100.000 at beekeeping. I answered that his son could if he was a well-rounded business man with considerable experience, and capital enough to start the business well. His talent should lie along this particular line of business. It should be his "hobby." He would have to see to it that the financial end of the business was well taken care of, and an economical course pursued. Even then his goal could not be attained early in life.

I may have been too optimistic with the last party, but I know that such a thing is possible. The impossible is beyond.

Information About Winter Stores

"MR. WILDER:—I am a novice in beekeeping, and want to know how much stores to leave my bees. I have 10-frame hives, and some of the colonies have filled the supers well while others have not, but all are strong in bees. Should I leave any supers on the hives during winter? When would it be a good time to requeen? I bought my bees in box-hives from the surrounding country, and spent my leisure time transferring during the summer.

"I find some of my colonies have brood in all the super frames. What should I do? All my hives are well filled in lower story; combs all built and filled with brood, honey and pollen. (MRS.) B. W. MARSTON.

"Ninock, Bossier Parish, La."

Your bees being in 10-frame hives should have plenty of honey in the lower stories for winter and spring. Two or three frames well filled, or several partly filled with an equivalent amount are sufficient. I would extract the honey from the top stories, and set the super of empty combs back on the hives and leave them on over winter. The bees will take care of them. If you were to remove the supers, the bee moth might damage or destroy the combs. Early next spring will be the best time to requeen, as it is getting late for this now.

I would leave all super frames containing brood on the hives, and not extract the honey from them until the bees have hatched. Instead of extracting these later you might reserve the supers for spring feeding.

Back to Florida

November 1 we will start for our winter home at Bradentown, Fla., where we expect to take a rest after a busy season. The past one has been our greatest, and in order to make the next one exceed it, we deem it best to prepare ourselves for the task.

If any readers of the American Bee Journal, or other beekeepers, are coming to Florida, we would be glad to have them call on us. A large number

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of beekeepers wintered here last year, and we had many interesting conventions. A greater number is expected this winter. What a good time we will have fishing, hunting, and taking other pleasurs which beekeepers enjoy. There will also be the exchange of ideas along business lines. Come as many of you as can, and let's have a good time together. It will be a treat you justly owe yourself.

52 COLONIES OF BEES BEING MOVED BY AUTO 12 MILES.
Front car, Wesley's Foster's Reo; rear car, W. B. Walcher's Reo truck.

CONTRIBUTED ARTICLES~

No. 1 to Fancy Sections all the Time

BY DR. A. F. BONNEY.

IN the summer of 1913, the writer conceived the idea of making small 1½x2 pound sections, and larger for the use of hotels and dining cars, having, I think, found a way to produce them as rapidly as the larger sizes, but did not get to work in time to develop the work. I thought there was a demand for this kind of honey, but the editor of Gleanings in Bee Culture expresses the opinion that there is no call for such size sections, notwithstanding that there was in their magazine something about it some years ago.

Considering the Medina people pretty good authority on things pertaining to honey, I feel inclined to drop the small section idea, while in it I find something that may be of vastly more value to beekeepers, and that is to have the bees make No. 1 to fancy honey all the time, and more of it than of the ordinary mixed kinds. Old and old-time beekeepers are requested not to laugh too loudly at this, for if Mrs. Bonney msy be believed, I sometimes show aigns of almost human intelligence. You will remember that Mr. Langstroth's hive was laughed at, the Porter bee-escape was considered a crazy notion, and possibly we still have something to learn about the bees and what we can do with them.

I suppose every one who has produced section honey has tried "feeding back," which, I am assured, is a waste of honey. The use of frames of combs helps but little to get the bees up into the sections, and any falling off in the flow shows at once in unfinished sections. The bees will produce more honey in extracting frames than in sections, if beekeepers may be believed, all of which was of influence in the formation of this idea.

As I said in a previous article, I formerly wanted to patent every idea I got, but while I think I have something of great future value, I am going to give it to the beekeeping world to be developed.

Every one knows that if broken, patched, and other irregular comb be put into a hive of active bees they will at once patch it up until a week later no one can see the joints, so I shall take an extracting frame without wires, put in a full sheet of thin or extra thin foundation and let the bees fill it. When it is done and sealed, I shall take a stiff steel form and cut blocks of honey the exact size of the sections used, transfer them to sections, put those in a holder, put them into the hive, and nature will do the rest.

Like some other ideas which proved to be great, there is not much to this, if it proves to be what I think it is. That the bees will fasten the sections in place and produce more uniform results than in the old way I almost know; that the honey can be transferred at a profit I am convinced, for 15 to 30 seconds should suffice for each section. The transferring can be done in the cool of the evening; the frames can be put back to be refilled.

I do not know just what loss there is from unfinished sections, but I do know that in my little business the percentage of unfinished pieces was appalling, to the extent that I quit producing section honey. Bees will work in extracting frames when they will not in sections, and the frames can be spaced so that the finished pieces will weigh a plump pound, and being all finished before being transferred it is probable that the bees will leave them so, but the man can leave a "pop hole" in one corner of the section if he wishes.

As to the method of work, I would suggest that those who wish to experiment in the spring, use unwired frames of any size, and let the bees finish, or nearly finish, some sheets of honey. Take out one, lay it down, and with a stiff metal form which will just slip into a section, stamp out a chunk of honey, and another until as many are cut as possible, then lift the frame and put it back in the super over, of course, a drip can. Now slip the section over the cut comb, and then slipping a knife blade under one edge stand the section on end and set it into the section-holder and transfer this to the hive.

Provision must, of course, be made to catch the drip from the cut combs, but anything, even four sections in a super of extracting frames, will tell you what can be done with the idea. The fact must be patent to beekeepers, that if the bees will produce 32 sections of honey in extracting frames sooner than they will in so many sections, and that if they can be transferred to the hive to be resealed, and without loss of time the increased money one will get from the improvement in grade will amply repay him for the work and bother. However, I do not wish to argue. I give the idea to the beekeepers, while positive that in the hands of careful persons it will prove a money maker.

I shall be very glad to hear from individual readers of the American Bee Journal about this, and in the coming season, if I am alive, I want to hear from every one who tries it.

Buck Grove, Iowa, Sept. 4.

The Signals of White Clover

BY JOHN H. LOVELL.

AVERAGE-SIZED heads of white clover contain from 57 to 85 flowers. (The numbers in four heads were respectively 57, 61, 68 and 85.) When a cluster begins to bloom all the flowers point upward as is shown in Fig. 1. After the

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marginal flowers have been pollinated and ceased to secret nectar it is of no advantage to them to receive visits from bees; and it is a waste of time on the part of the bees since they obtain no booty. How can this be prevented? Very simply, by bending the outer flowers downward as may be seen in Fig. 2. The reflexed flowers often turn reddish at first, but later fade to brown. The bees pass them by wholly unheeded, and confine their attention to the newly expanding blossoms. Finally all of the flowers bend downward, as is

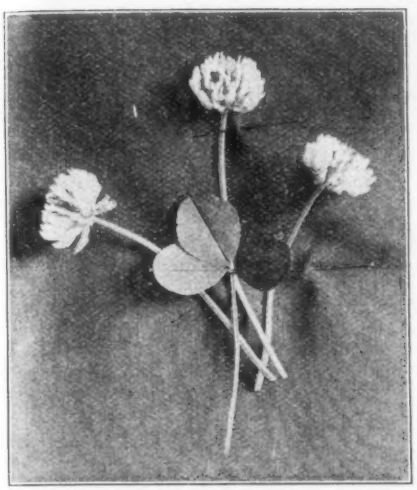

FIG. 1.—First stage of white clover heads: all the flowers point upward.

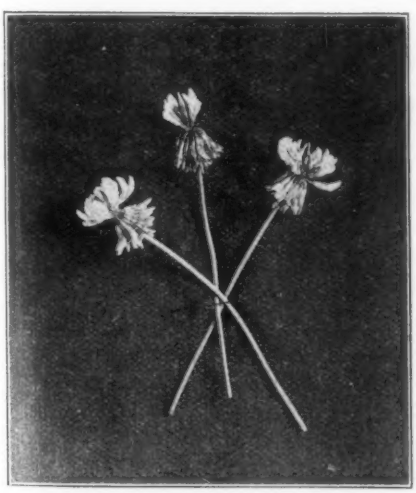

FIG. 2.—In medias res. Second stage of white clover heads; the older, marginal flowers point downward; the central, later flowers still point upward; the cluster has the form of an hour glass.

shown in Fig. 3. They no longer require the visits of insects. All that is left for them to do is to mature their seed, during which they turn to a dark brown color.

The flowers of alsike clover heads and of yellow clover heads behave in a similar manner. Figure 5 shows the three stages or phases in the flower-clusters of yellow clover. Another familiar plant in which the older flowers bend downward and change from blue purple to dark purple in color is the purple vetch (*Vicia cracca*), so common in worn-out fields. These changes of the flowers in position and color serve as signals or signs to bees, telling them which flowers to avoid and in which to seek nectar.

But no such change takes place in the flowers of red clover, which is

FIG. 3.—The end. Third stage of white clover heads; all the flowers (except one on the middle head) reflexed.

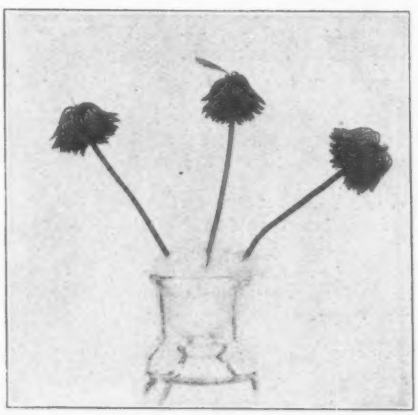

FIG. 4.—White clover flowers in third stage

FIG. 5.—The three stages in yellow clover; *a*, flowers just beginning to bloom; *b*, flowers partly bent downward; *c*, all the flowers reflexed.

pollinated by bumble-bees. There is no need of it. The floral head is much larger, and elongates so that there is a convenient landing place offered to the female and worker bumble-bees. After pollination, the flowers, beginning with those which are lowest, wither and turn dark brown.

It is clear that it is an advantage to white clover to have flowers bend downward; and it would be interesting to know just how this habit has arisen The fact that it is of universal occurrence in both white and alsike clover, would indicate not only that is beneficial but easily acquired. As the inner flowers grow they tend to push backward the marginal ones; and once these have assumed a horizontal position, gravity might pull them downward. If any reader can suggest a better theory I wish he would write to me about it.

Waldboro, Maine.

Bees in Southern Mexico

BY L. K. HIRSHBERG.

THE investment of American capital in Mexican enterprises, as well as the unsatisfactory state of the internal affairs of our southern neighbors, makes any discussion of commercial matters in that sanguinary republic most timely. The bee-breeding industry, for example, in Mexico, owned for the most part by citizens of the United States, has luckily been little disturbed by the guerrilla warfare.

The most important center for the breeding of bees, and therefore the production of both honey and wax, is in southern and western States. Here in the mountainous sections of Papantla, Jalacingo and Chicontepec, as well as the fertile environs of Vera Cruz, especially in the country of Sosanoloapas, there is an enormous bee-breeding business. Indeed, apiculture may justly be called one of the most profitable industries thereabouts.

Housing of bees is given little if any consideration. The honey-makers are maintained for the most part in hollow trees, excavated logs and discarded boxes. These methods have been handed down to the greasers from the primitive aztecs and Indians, who knew how to cultivate bees before the conquest of Mexico. There are a number of native wild bees here not found elsewhere. Only two of these varieties, however, have been domesticated.

Along with the light-colored and dark German bee, and the smaller Italian pure breeds, many hybrids are cultivated. The Spanish names of some of these are La Espanola, La Castellana, La Real, and Abeja Prieta.

One of the native rules for building hives is to build them upon platforms or stilts in any way to keep them above the moist earth. "Build," however, is a wrong word, for no one takes the trouble to do that. If hollow stumps or logs are used, you may find them hanging like a hornet's nest from the beam under the roof of a veranda, or from the limb of a tree near the house. When the fork of a tree is available, you may be sure it will be found with one of these improvised hives. Stilts, posts, or platforms are kept from 2 to 6 feet above the ground.

Honey is removed from the hives about twice a year. The preferred time is in the months of March and July, although there are no iron-clad rules. The amount of honey and wax collected is as inconstant as the seasons themselves; although the average may run something like 13 pounds an-

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nually to each hive, and the wax about 2 pounds.

As for flowers, no attention whatsoever is paid to them. The bees are allowed to select nectar in a haphazard fashion, although the keepers are well aware that certain flowers contain more honey than others. Curiously enough, honey that is gathered when the coffee trees are in bloom has an acrid, bitter coffee taste, while a certain vine which grows profusely in that neighborhood taints the honey, when it blossoms, with an onion odor.

The honey-comb is removed by Mexican beekeepers by means of machetes, long Spanish knives. The bees are usually smoked out by burning corncobs or by means of dry manure burned in clay or cheap metal stoves. The honey is separated from the combs in exactly the way it was done a hundred years ago. They compress the combs with their bare hands until no more honey exudes; then the whole mass is pressed in a coarse cloth made of some common fibre such as pitu. Very few of them use a hand press or sieve; only a very few use modern honey extractors.

There are large black ants called by the Mexicans "opehua," which are most destructive to bees. When these vicious insects make an onslaught upon a colony they may destroy it in one night. These ants, however, do not seem inclined to attack the wild honey, made by the wild Mexican bee, a small, stingless honey gatherer. This little stingless bee is no larger than the ordinary house fly, and its product is particularly prized for an alleged medicinal value. Although wild, this bee is easily domesticated, when gourds or small vessels are used for its hives.

Wax from this fly-like bee is black or very dark in color, and is often found in hollow trees, fissures in rocks, and holes in the ground, where the tiny creature makes its nest. Another wild Mexican bee called the "cuitla" is dark in color. When angry or disturbed, this bee spurts out a liquid said to cause an itchy eruption on the skin. This fluid is much sought by the superstitious natives, as well as medical charlatans, for the supposed cure of every ailment of the human flesh.

Baltimore, Md.

Swarming Facts and Fallacies

BY J. E. HAND.

THE thoughts expressed in the beginning of the next to the last paragraph of the article by Edward F. Bigelow, page 348, reminds me of the Irishman who said, "Faith, and I'm open to conviction, but, begorrah, I'd like to see the man who can convince me." While I may not succeed in convincing Mr. Bigelow of the error of his hypothetical conclusions, I can at least show my good will by making the attempt, for all my experience along this line leads me to believe that his hypothesis is at fault in more ways than one.

First, he is in error in assuming that the queen leads the swarm; in fact, the reverse would be nearer the truth. We practiced clipping queens exclusively, for several years, during which time we watched the issuing of hundreds of swarms, with all our senses alert to discover the clipped queen in order to cage her in time to prepare the hive for the returning swarm, and we never yet saw a queen *lead* a swarm out of the hive. Occasionally she will accompany the first rush of bees, but oftener will emerge when the swarm is about half out, and not unfrequently will be among the last to leave the hive. Again, his hypothesis is wrong, when it leads him to conclude that nature intentionally provides a plurality of queens for a prime swarm.

I have sifted hundreds of colonies of bees through queen excluding metal, searching for the queen to clip her, and never found a plurality of queens except in case of supersedure; in which case the failing queen and her daughter are frequently found on the same comb, and might also both accompany the prime swarm. Such queens, however, cut no figure, since they are tolerated on account of their weakness.

With this view of the case, I must conclude that instances where a plurality of queens accompanying a prime swarm are of rare occurrence, and can be accounted for in one of three ways. First, it might happen in case of supersedure, as just described. Secondly, swarming might be delayed by inclement weather until some of the young queens emerge, in which case there would undoubtedly be a plurality of queens with the prime swarm. This occurrence is rare, however, and is no part of nature's plan. This is proven by the fact that the bees exert every effort within their means to hold such queens in the cells, until after the issuing of the swarm.

Several cases of this kind have come under my observation; in one instance 5 queens emerged from their cells in one hive, in as many minutes after the issuing of a prime swarm, accompanied by a laying queen, and some of them bore evidence of having been held in leash within the cells, for a day or two. Another instance came to my notice where two unhatched queens were intimidated by the threatening attitude of the bees to the extent that, while the caps were removed from the cells, they did not emerge until several minutes after the issuing of the prime swarm. Judging from their appearance, and the lively manner in which they frisked about upon the combs, I would have taken them to be at least two days old, had I not seen them in the act of emerging from the cells; and I have also known the same thing to occur in after swarming. Thirdly, a virgin might be on her mating tour at the time, and might be attracted by the commotion of the swarm, and join it. In this case, there would be a plurality of queens in the prime swarm.

Again, it is not necessary to sift a swarm, having a clipped queen, in order to determine whether or not it contains a plurality of queens. The action of the swarm, in returning to the hive, after the clipped queen is caged, is a prima facie evidence of queenlessness. All my experience along this line will warrant me in making the positive assertion that some one of these three contingencies is responsible for every case of a plurality of queens in a prime swarm. It is true that two or more prime swarms might unite, as frequently happens, in which case there would be a plurality of swarms, as well as queens. This is no part of nature's plan, however, since it could not happen except where several colonies are assembled in proximity, by the interference of man.

With reference to the wisdom of nature's method of hinging the existence of the swarm upon the life of a single queen; nature has evidently decreed that it is the wiser course to provide against accident to the queen while traveling with the swarm, by leaving behind a sufficient number of unhatched queens and drones, to ensure the safety of several after swarms. In which case should the swarm come to grief, it is only *a part of the increase* that is lost, and the original colony still remains, and is rejuvenated by the departure of all the old folks, leaving nothing behind, except the combs of brood and honey, and a few straggling bees. These augmented by a goodly number of returning field bees, and the rapidly hatching brood, the strength of the colony will be recuperated in time to discharge an after swarm, as soon as the oldest queens are of flying age. This operation is liable to be repeated as long as sufficient unhatched brood and a plurality of queen-cells remain.

Viewing it from *nature's* standpoint, the loss of a prime swarm is of little moment, but to a *beekeeper* it means the loss of the honey crop, for with the swarm go the workers who would produce it. Concerning the kingbird, if one should fly into a moving swarm by accident, or with avaricious intent, self preservation would undoubtedly forbid any attempt or desire to swallow the queen.

The period of the greatest danger to the queen is during her mating tour, and having passed this period in safety, her chances of a long and useful life are good; since accident along other lines is chiefly due to the interference of man.

Concerning the four queens that Mr. Bigelow found in as many small bunches of bees, this is characteristic of after swarms, in which a plurality of queens may be expected, in numbers ranging all the way from two to a dozen.

Concerning drones, the swarming season is indeed a holiday season for the gay and festive drone; and his

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A Kansas Apiary Owned by Geo. E. Capwell, of Cottonwood Falls.

deep bass voice, mingling with the shrill treble of the workers, makes a pleasant harmony, and forms the well-known bugle note that heralds the issuing of a swarm of bees. At the sound all hands join in the chorus, and the inmates of the hive, old and young, male and female, great and small, all seem bent on getting out of the hive as quickly as possible, evidently for the purpose of joining in the exercises, and enjoying the festivities of the occasion. It frequently happens that these noisy demonstrations will influence other colonies to join in the holiday orgies, when a general melee ensues that is likely to make things interesting for the beekeeper. On such an occasion I have had 9 swarms out at the same time. It was on July 4, and the bees seemed to enjoy the holiday better then we did.

Concerning Mr. Bigelow's hypothesis that drones have a purpose in accompanying the swarm, isn't it going a little too far to attribute to bees a motive for their acts? Evidently nature has decreed that they shall accompany the swarm for the purpose of performing certain necessary functions for which they were especially created. This decree makes it just as natural for drones to accompany the swarm as for queens; for they are a part of the commonwealth of the community, and their presence is necessary for the perpetuation of its existence. In reply to the question by Mr. Bigelow, as to why the drones accompany the swarm, permit me to further say that the method that nature employes to induce drones to accompany the swarm, may perhaps be the desire to perform certain functions as already mentioned. This is merely a matter of conjecture, however, and evidently the first answer to the hypothetical question is the nearer correct.

If Mr. Bigelow will pardon the liberty, I would further suggest that it is hardly worth while to try to find out why bees do certain things in a certain way, for mother nature wouldn't tell us if we asked her. The knowledge that they will always do things in the same way, under like conditions, is sufficient to enable us to manage them intelligently, and I fail to see wherein a knowledge of the whys and wherefores of the case can benefit us. Especially since nature has not seen fit to enlighten us along these lines, but commands obedience to her laws without offering any excuse for their existence.

Undoubtedly the piece of honeycomb that Sampson took from the carcass of the lion contained the orthodox number of queen and drone cells. All things considered, is it really worth while to question the wisdom of nature's methods? It is true that mother nature is sometimes rather lavish in her supply of drones and queens, but she cannot be expected to be everywhere at once, and therefore should not be blamed if a refractory colony, taking advantage of her absence, builds too much drone comb and too many queen-cells. And when we consider the multitude of her subjects, all bent on violating her laws and frustrating her plans, it seems ungenerous to cast reflections upon the wisdom of her methods just because she cannot afford two or three queens for every swarm.

Birmingham, Ohio.

Cleaning Out Pollen-Filled Combs

BY EDWIN BEVINS.

I HAD a peculiar experience with a colony of bees this season. The colony was in a hive holding 8 frames, 2 inches deeper than the standard frame. It was strong early in the season, and wishing to get the queen at work in combs of standard size, I put a hive-body filled with combs on top. The flow had been on some days before I examined the colony, and I then found the combs in the upper story full of honey, but no brood in any of them.

Thinking the queen must be below I took off the upper story, put a queen excluder on the lower hive, then put on a hive-body filled with empty combs, and put the filled body on top of that. Honey was coming in freely, and I soon discovered that another set of empty combs was wanted. I took off the two filled bodies in order to put one filled with empty combs next to the brood-chamber, and then as it was too big a lift for me to put the body first filled on top of all the rest, I put it on another hive standing near, which had but one super.

A little later I saw that something was wrong with the colony about which I am writing. Wishing to carry some supers with sealed honey to the extracting room, I opened the body that I had put on another colony in order to take away part of the combs, and not have to carry all at once; but found that a large part of the combs were filled with brood. I had given the queen to the stronger colony, and the bees had, of course, destroyed her.

I did not examine the old colony for some days, but when I did I found the 8 deep combs solidly filled with pollen. I took the excluder away and also one filled super. In the other super I put a comb having eggs and larvæ, in hopes that the bees would rear a queen. At the third trial I succeeded. It is now Oct. 7. A few days ago I put the upper story below, and then shook all the bees with the queen from those 8 deep combs in front of the hive. There was no pollen in any of these 8 combs, and they were about half filled with honey.

If the description has any value, it is from the method by which I got pollen-filled combs cleaned out by the bees.

Leon, Iowa.

Swarms—Queens and Drones

BY A. D. D. WOOD.

I HARDLY agree with Dr. Bigelow's article, but perhaps he has good ground for writing as he does. I am glad his article came as it did, right on the heels of an experiment I conducted this last June, and by which I am fully convinced the Doctor's views and mine are far apart.

On June 10 I had a large swarm issue, and upon going to the hive I noticed the queen about 2 feet away, and sat down to observe what they would do when they returned. (I strive to have all laying queens clipped.) This time I wanted to study developments. The bees clustered; a few bees stayed with the queen. In less than five minutes the swarm commenced to return; there were no virgins with them this time. For seven consecutive days they came out; each time the queen was watched, and each time the bees returned; no virgins at any time. On the eighth day they came out, and the old queen went so far that she would not have returned even if the bees did. But the bees stayed, and the virgins came with them this time. I caged the old queen and placed her at the entrance of the old hive; took my basket, shook the bees in it, and commenced to hunt. I found two virgins. I set the basket in the shade and they all returned to the parent hive. The next

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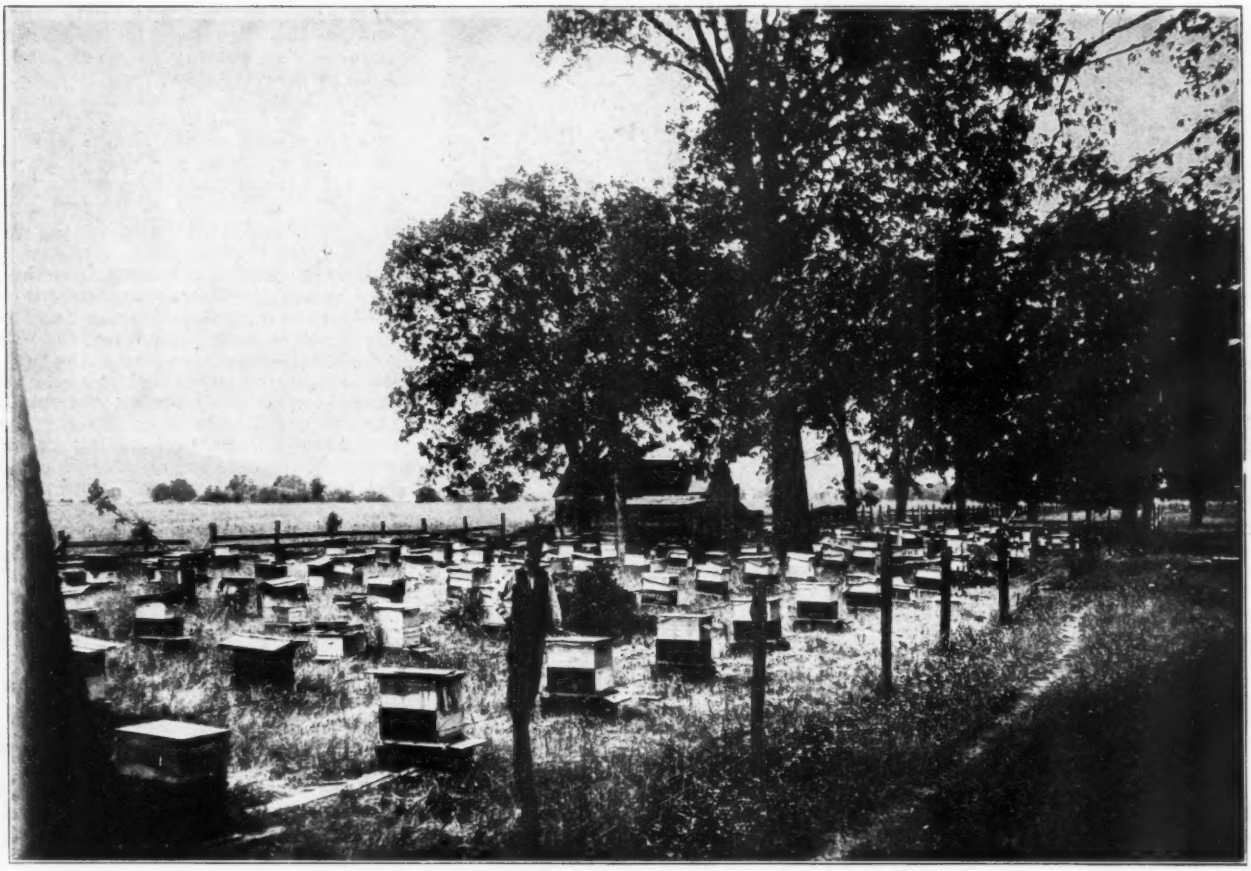

Bee-Keeping in Oregon. Mr J. H. Berry, of Central Point, and a portion of his bees.

day out they came with more virgins. I gathered them in the basket and placed them in my bee cellar for 24 hours, as by that time all but one virgin would be killed. There were four dead virgins in the basket.

The Doctor says kingbirds might catch the queen. Did any one ever kill and dissect a kingbird? It is an old traditional saying that they are bee birds. Well, they are, but what do they catch? Nothing but drones, as far as I have been able to see, and I have dissected at least one dozen, for I, too, was sure they were guilty. So I am afraid the Doctor's queen that absconds with the swarm is perfectly safe.

This article would be too long to enter into all the details, so I will only touch those that are the most familiar to every one. If your swarms came out prior to 10:30 a.m., there were very few drones with them. If between 10:30 and 2 o'clock, there would be a multitude of drones to alight with the swarm, as they are foolish and will follow the crowd from all hives, for at that time they are taking their daily flight.

I strive to have as little drone comb as possible. I have many hives that do not have a single drone hatch, but there are drones in them all summer. They come from other hives. They are not there because of virgins; but as the little boy says, "Just for instance." Drones have no choice of home unless the hive is pretty well isolated. Years ago, when I bred Italian bees only, I had some queens that produced very yellow drones, and some that produced very dark. They would mix all through the yard, the dark with the yellow and the yellow with the dark.

Lansing, Mich.

A Peculiar and Unusual Time to Take Honey

BY C. W. REES.

LAST winter (1912) I visited my old home in Kansas. One pleasant afternoon in February a friend, an old neighbor, came over and asked me to "rob" his bees. He said that he had taken but little honey yet. The sun was shining brightly, and it was warmer than it had been a good part of the time, and I thought perhaps we could take some honey from the bees, but he surprised me by saying, "Not now; it is too warm. Come early in the morning before the bees can fly. They can't sting us then." Next morning I was at my friend's house early, for I wished to see and learn how it would do to take honey when bees could not fly. We took the honey from two or three hives, then he said, "It is too warm now; wait until a cold spell comes; these bees are too lively now."

It was not long until there was a storm, a snow storm, I think. When it quit snowing I hastened to the bee-yard, and my friend and I with smoker, pans, buckets, knives, hammers, chisels, etc., attacked the poor bees without mercy, for most of the covers were nailed on tight. The supers, some of them, had extracting frames in them, and some had sections filled with honey. The brood-nest had three frames running crosswise, I think. I don't remember whether any of them had more frames or not. The bees were, or had been, closely clustered on the combs in the brood-nest before we commenced to hammer and pry the hives apart; for supers as well as covers were nailed fast. But few bees tried to fly, and these soon fell to the ground with cold. The others, what few there were in the supers, soon ran down when we smoked them, and the supers that we could get the covers off easily had no bees in them, so all we had to do was to pry off, carry them to the house and cut out the honey. The supers were not very hard to get off, for the comb and wax were so cold and brittle they broke apart easily, as it was freezing cold. The extracting frames came out easily, but the sections were apt to break.

He had, perhaps, 20 colonies of bees, and we took the honey from the most of them, if I remember right. It was a cold job, for part of the time we had to work barehanded. We wore overcoats overshoes, and caps drawn down close over our ears to protect them from the cold.

There may possibly be one advan-

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tage in taking honey in the winter, but there are many disadvantages. For my part I had rather take it in the summer, when the thermometer registers 100 or more degrees.

Pearsall, Tex.

Does It Pay to Make a Honey Exhibit at County Fairs?

BY J. H. BERRY.

OCTOBER, 1910, I made my first exhibit at the Rogue River Valley Fair at Grants Pass, Oreg. Before that I had a problem on my hands. It was to know how to sell what little honey I had secured. This solved it for me. Now I do not have to advertise. The hard thing to do now is to get honey to supply the demand, and I even get orders from California. I also exhibited golden bees and sold a number of queens.

MR. BERRY AND HIS EXHIBIT AT THE ROGUE RIVER VALLEY FAIR.

The golden bee is the bee for me. At the fair these bees were the most attractive exhibit there was, and I would have to close them up at times; the eager folks would block the gangway so no one could pass. If you have never tried such an experiment, try it once. You will be surprised how much attention you can attract by making a fine exhibit at the fair. Be sure you have a one-frame observation hive, for that holds the crowd while you show your nice honey. Even for a local trade it pays big.

I had $75 worth of honey in my exhibit, and I would have been glad if it had been $700 worth. I could have sold it all. I had goldens and 3-band Italians there. I took first prize on both, and on extracted and comb honey, beeswax and honey vinegar. All these things attract attention.

I have 250 colonies of golden Italians run for extracted honey. This has been the poorest year we have had for 5 years. I only got about three tons of honey. The bees are left in fine condition for winter. We never think of feeding bees in Rogue River Valley. I started with 15 colonies 5 years ago, and made an average of 150 pounds of honey for 3 years. Last year averaged only 100 pounds. I am not yet through extracting this year, so I cannot tell what the average will be. My increase has been made mostly by buying bees. The 5-band goldens are not inclined to swarm, if they have room to store honey. What I have of the 3-band always swarm and do not gather as much honey as the 5-band goldens.

I cannot say anything about the wintering problem, as our winters do not compare with Missouri or Illinois. Our bees had a flight every week but two last winter, and had some brood all winter. On Jan. 30 they had 5 frames over half full of sealed brood.

I notice prospectors, who come to visit this country, always follow the Southern Pacific railroad through the center of the Willamette Valley. This is not the part for honey at all. Along the Coast Range, on the side of the mountains next to the coast, is the best. There the honey is gathered from white clover, maple and fireweed and wild blackberry. All these produce white honey. We get our honey here from alfalfa, sweet clover, and pear and apple. The honey is of fine quality, but it candies quickly.

Central Point, Oreg.

Why Do Drones Go With a Swarm?

BY DR. C. C. MILLER.

THAT article on page 348, by Prof. Bigelow, is something out of the ordinary, and has no doubt been read with lively interest by others as well as myself. I can but admire the courage of a man who is not afraid to risk his pate, as he expresses it, by boldly attacking venerable traditions well established and universally accepted. So he will not feel disappointed if I attempt to voice some of the thoughts that may arise in the minds of many, albeit I am generally none too conservative as regards the traditions in general.

To the question, "Why do drones go with a swarm?" his answer is something like this: "With every swarm there are always to be found a number of drones, and there being no other satisfactory explanation for their presence, I am led to believe that in every swarm there are several virgin queens, and the drones go with the swarm for the purpose of mating with these virgins.

I feel pretty sure that Prof. Bigelow will take it good-naturedly if I squarely take issue with him, and say I don't believe there are several virgins in every swarm. More than that, I don't believe the majority of swarms have several virgins in them. More than that, I don't believe that in the majority of swarms a single virgin is to be found. Leaving the negative, let me give my positive belief, a belief that I think is entirely in the line of accepted traditions

I believe that in a prime swarm there is no queen except the old laying queen. In these days I think prime swarms out-number the after-swarms, and so I believe that in the majority of cases no virgin is to be found in a swarm. There may be rare cases in which something has happened to the old queen, and so a virgin goes with the first swarm, but whether that can be properly called a prime swarm is a question. I believe that in an after-swarm there will be found a virgin, and only one, unless it be the last after-swarm. Of course, the first after-swarm may be the last, but so long as further swarming is contemplated the rule of the bees, with possible exceptions, is that only a single virgin will go with the swarm.

At the very outset Prof. Bigelow questions the teaching that "the old queen leads the swarm and leaves in the hive several unhatched queens that will in the future emerge and provide for the continuance of the colony." If "the old queen leads the swarm" is to be taken literally, Prof. Bigelow does well to object. I have seen many a swarm issue, and have seen many a queen issuing with a swarm, and never yet did I see the queen issue in advance of *all* workers. She may come out after only a few workers have issued, or she may

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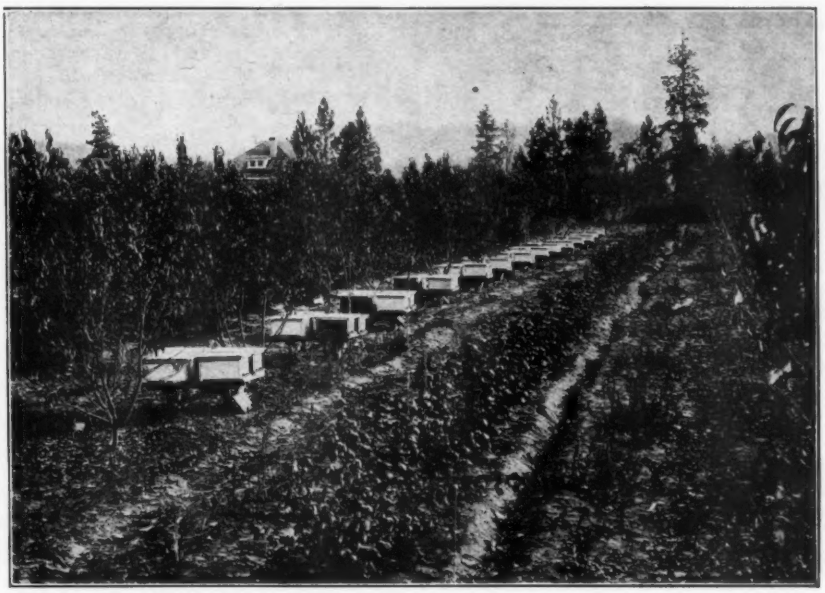
come any time after that until the last workers are out. Indeed, the swarm may issue and sail about without any queen, even settling for a time upon a tree, as I have seen many a time with a clipped queen. I hardly think it is generally taught that the queen really *leads* the swarm. Certainly no experienced beekeeper ought to think so.

But from the fact that he does not particularize upon that, and from what he says afterward, that can hardly be the thing to which he objects, and the only other thing I can think of is the teaching that when the old queen leaves with the swarm she "leaves in the hive several unhatched queens." But, Prof. Bigelow, "seeing is believing," and I have seen the cells of the unhatched queens often. Indeed, I think I never had a swarm issue with a laying queen that I did not within a week look for queen-cells (to destroy them), and I am sure there never was a case when I did not find them.

Since writing the last paragraph it occurs to me that the thing to which you object is the teaching that the unhatched queens are for the future benefit of the old colony, with the implied teaching that none of them goes with the swarm. You say: "I have made some careful studies, and thus far I have found that almost invariably there are several queens in the swarming cluster." If you should say, "I have examined a thousand swarms, and in each one of them I found several virgins," I would have no right to dispute it, but I could say with very great confidence, "Each of those thousand swarms was a *last* swarm; and if you will examine a thousand prime swarms with laying queens you will not find a single queen beside the old one."

You say, "It is my opinion that there is no war between the queens of a colony so long as the colony is in flight or in a clustering condition, but when the bees have settled upon a home, then comes the war of the queens, and and only one survives." I am sure you would change your opinion if you should see the proofs to the contrary I have seen. I have seen two virgins engage in mortal combat not three minutes after emerging from their cells. Certainly that was before they were "in flight or in a clustering condition." I have seen a virgin digging into the side of a cell to kill a rival before it had a chance to emerge from its cell, and I have seen more than one case in which a virgin in a nursery, after having emerged from its cell, diligently dug into the side of that cell, as if seeking to destroy a rival supposed to be in the cell. Just put two virgins within speaking distance any time, and see if they postpone battle until having settled upon a home.

You cite a case in which a swarm had four clusters, a queen in each cluster. Nothing strange about that. Plenty of such cases. But you don't say that one of the queens was a laying queen. You may rely upon it that such a swarm is always a *last* swarm, and that such a thing never occurs if a laying queen is with the swarm.



APIARY OF D. E. MCDONALD, IN BRITISH COLUMBIA.

You say, "I wonder if any of our veteran beekeepers have positive proof that in *any* swarming cluster there is only one queen." Like enough they might reply that the burden of proof was upon you, and ask whether you have positive proof that in *any* case you ever found a virgin in a swarm with a laying queen. For I notice that in mentioning cases with more than one queen you do not in any case say one of the queens was a laying one, yet you plainly advocate that drones go with a laying queen for the purpose of mating with the virgins that you believe are in the same swarm with the laying queen. Although I may not satisfy you with positive proof that no virgin is ever in a swarm with a laying queen, I can give you something tending quite a bit in that direction. Thousands of times I have searched through colonies for queen-cells, finding them in all stages of advancement, and never yet did I find a vacant cell from which a virgin had emerged prior to the issuing of a prime swarm. Such a cell is very easily recognized, and if virgins were in the habit of emerging even occasionally prior to the issuing of a prime swarm, surely I ought to have spotted at least one of them. Plenty of such cells I have seen a week or so after the issuing of the prime swarm, at which time the virgins emerge.

Moreover, if, Prof. Bigelow, it were as common a thing as you suppose for virgins to be in a swarm with a laying queen, don't you suppose the thousands of beekeepers who have had hundreds

HOME OF F. W. HALL, AT COLO, IOWA.

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of thousands of opportunities to observe should at least have met with one case? Yet I never yet saw mention of such a case, and I've read the bee journals quite a while.

But you insist, "tell me why those drones go out with the cluster if only the old mated queen leads the colony." Honest Injun, I don't know. I don't know why there are so many superfluous roosters in a flock of poultry left to itself, nor why as many bulls as cows are born. It may be that the drones, like a flock of sheep, follow the leaders of the swarm. Just go for fashion's sake. If you press too hard for a rational answer as to why the drones in a prime swarm, I may venture this: It is a common thing for bees to supersede their queen in the fall or soon after swarming. I have found queen-cells that seemed to have been started about the first of the brood started by the swarm. Drones are needed for these young supersedure queens. What would be the chance if no drones came from the old colony? If drones were started at the same time as the queens, in the swarm, they would not emerge until nine days after the qneens; too late to be of service. We know that no drone comb is built by a swarm for a number of days, making it still more imperative that drones shall come from the old hive to meet the prospective young queen.

At any rate, it's easier to believe that drones accompany the swarm for the sake of meeting future virgins that are well known to exist than to believe they go for the sake of meeting virgins that no one has ever yet seen in a prime swarm.

Marengo, Ill.

Beekeepers I Have Known—F. W. Hall

BY FRANK C. PELLETT.

WITH a $5000 honey crop, a magnificent home, a capable wife, and three unusually attractive daughters, it would seem that a beekeeper would be about the most to be envied of men. There are bee-keepers; and those who keep bees. F. C. Hall, of Colo, Iowa, keeps bees, and then again the bees keep him; for Hall is one of the few enthusiastic scientific bee men who burn their bridges behind them, and stake everything on making a winning with their chosen specialty. Most of us make lots of noise about the beauties of beekeeping, and the pleasures and profits to be derived in honey production, while at the same time we stay close to shore and keep our barks securely anchored to some other stay. When we have a good year we brag about our production per colony, and when we have a poor season we live by means of the prop, whatever that may be. Few of us, however, enjoy as large incomes, on the average, or live as well as the really successful specialist.

MR. HALL GOING OVER HIS HOME YARD WITH THE STATE INSPECTOR.

There are a number of beekeepers here in Iowa who are doing very well, and whose incomes are equal to those of the most favored regions of California or other widely heralded beekeepers' paradise. Hall ranks near the head of the list, and is one of about a half dozen men who are the largest producers, considering the number of bees kept in Iowa.

In the first place, as a matter of course, Hall has a splendid locality, but so have a hundred others. The real difference, after all, is in the man and his practical methods. At the beekeepers' convention last winter he read a paper which he had carefully prepared. The paper soon got in his way and he laid it down and just told us about it, and beekeepers are talking yet about some of the things he proposed. Some of the beekeepers seem to be of the opinion that it just would not work to kill off the queens and requeen at the beginning of the honey flow, but it works for Hall all right, and he gets the most honey and the least swarms per colony of any man I know.

Last year the honey crop was very short over much of Iowa, and many beekeepers had to feed for winter stores. Mr. Hall had 25,000 pounds of honey from something like 300 colonies. We all thought that was a big showing, and wondered whether he could do it again. This season is a bumper one over much of the State, and to show us the possibilities of a good year, he has proceeded to roll up a crop which is estimated to be about 25 tons of extracted honey. As he has a mail-order market for much of his honey at 10 cents per pound, it will be seen that the $5000 honey crop is not so much of a dream. Then there is no dream about his fine home. The house is large, roomy, and contains about every luxury that modern ingenuity can devise.

Mr. Hall keeps bees in 6 yards of from 60 to 80 colonies in each, and apparently this number is about the limit of profitable production, for there is another apiary of similar size within a short distance of the home yard, with the result that the production here falls much below that of the others. At each yard he has a honey house, where he extracts the honey on the ground, and a cellar where he winters the bees, thus eliminating the element of hauling, to a large extent.

If you want to know about his methods, hitch up and drive over to the next convention and get it straight and first hand. Mr. Hall is not inclined to be a "wind jammer," but when he does talk he has something to say. Yes, do come over and attend the meeting. We have great times when the Iowa bee men get together.

Atlantic, Iowa.

Comb Honey—Sections Well Filled

BY G. M. DOOLITTLE.

THERE seems to be an idea in the minds of some beekeepers that the most desirable and most marketable sections of honey are those which are filled the fullest, such as have the cells next to the wood filled with honey not only all around, but capped over so there are no places where the cappings do not lap on the wood, thus making the wood part as solidly full of honey as is a can or pail when filled with extracted honey. Such a section is called by these people "gilt edged" or "fancy." There is no question but that such "crammed sections," completed in the heighth of a heavy honey flow are attractive to the eye, but is that all there is of the matter?

The ultimate and logical conclusion rests with the consumer. The wood of the section is not the thing which is brought to the table to be admired and eaten. Basswood lumber is not eaten by the lady of the house or her guests

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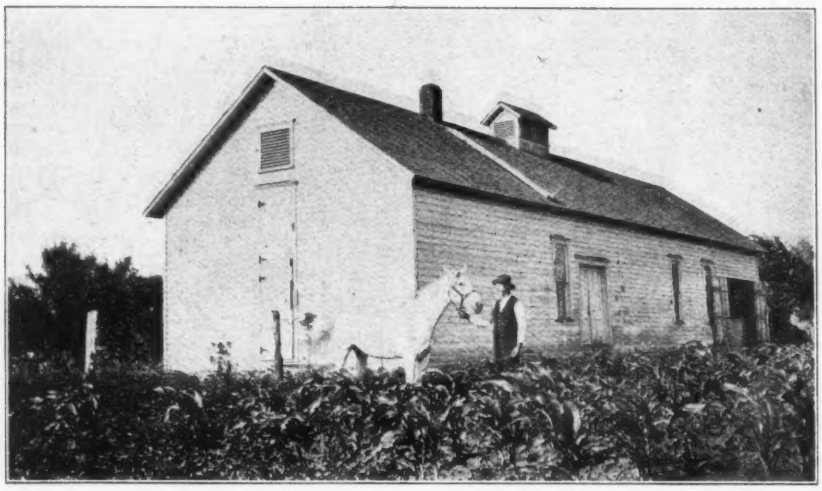

MR. HALL'S HONEY HOUSE AND HORSE THAT HAS SEEN 20 YEAR'S SERVICE HAULING TO AND FROM OUT-APIARIES.

at the "tea party." It is the section which looks best on the *plate*, and not the section that looks best on the counter that will finally win. The more or less perplexing problem of getting the tender comb out of its covering of wood without mangling the whole affair, has got to be surmounted before it can appear as the choicest ornament of the tea table. The good hostess will always choose that section when buying (where she can have her choice), which has a row of empty or unsealed cells all around next to the wood, provided the rest of the comb is nicely capped with snow-white wax. With such a section the servant girl, or even a child, can see where to cut, and there is comparatively little cutting to do. And when the wood of the section is lifted off, instead of having all the cells on the sides "dauby" with running honey, the edges of the cake are all nicely rounded off, and will remain so. These transparent side cells will show the honey through them and set the mouths of all to "watering" for a taste.

But with "Bridget" undertaking to cut the honey from one of those filled to overflowing sections what do we have? With a case-knife in an unsteady hand she proceeds to cut out the honey. Half the time the knife wanders away from the wood. Beside the main square, several thin slices of comb with running honey have to be stacked on one side of the plate or put on top, to the serious detriment of looks. Then there will be a troublesome scraping of the section to save all the honey, or else there will be a dauby, dripping thing to dispose of in some way, with the risk of having honey dripped or daubed on the tablecloth, floor, or somewhere else to ruffle the feelings of any person who cares how the house looks

Then, by the time the tea-party is ready for its meal, the nice comb of honey is "swimming," so to speak, in the drip from the broken cells at the sides; thus giving it the appearance of comb honey swimming in extracted, as is sometimes seen in glass jars on the market.

Fullness of section is not the great desideration some would have us believe. Yet this fullness of section and a consequent theory that it looks better and will sell better on that account is the chief argument advanced in its favor by its advocates. It is claimed that these full sections will bring a cent or two more per pound than those which are not capped to the wood all around. I have not found it so. On the contrary, a case of 20 of these filled to overflowing sections weigh more than buyers wish them to. This year the order has been that the net weight of a case of 20 sections shall come within 19½ pounds or less.

Then these very full sections require more careful handling than those with a margin of uncapped cells next to the wood. My experience has been that not one person in ten will pick up a section so as not to mar it, especially if it has sealed honey all along the wood. Most persons will pick up a section with the thumb on one side and the fingers on the other, generally taking hold at the top and pressing the fingers, if not the thumb, into the honey, which sets it to leaking. Not being satisfied, the other hand is used in the same way at the side, while the section is tipped out of the perpendicular position it occupied in the case or on the show table. This results in a still further damage to the sealed cells next to the wood.

I once hired a man who was considered the most careful of any in the neighborhood, to help me in taking off section honey and casing it. Before we commenced I took particular pains to show him how the thumb and forefinger only were necessary in lifting a section of honey by the wood at the top, and that under no circumstances the thumb or fingers be allowed to touch anything but the wood of the section. He worked with me one-half day, and spoiled more honey than double his wages, in spite of my frequent remonstrances. Although there was much comb honey to be removed from the hives, I told him that it was necessary for me to be absent in the afternoon. And it was, for had we continued further it would have led to an entire "break" with him, which is not good between neighbors.

Paper cartons over full sections fare little better. This is the reason why a part of those handling comb honey in the New York market still demand that the section be glassed the same as 30 and 40 years ago. One of the buyers, to whom I sold for several years, would not handle any other than glassed sections. He said that when his back was turned some one was sure to step in to look at his honey. Unless it was glassed, when he looked up he almost always saw the man licking his fingers, which meant to him a loss on that section.

Borodino, N. Y.

A New Method of Introducing —The Odor Theory

BY DR. BRUNNICH.

ARTHUR C. MILLER gave in Gleanings in Bee Culture, 1905, a valuable method of introducing, invented, as he said, by Simmins. I tried the proceeding often with success, and recommended it myself in the German bee-journals. Now he brings in a recent number of Gleanings a somewhat modified procedure as follows:

The dequeened or queenless colony has the entrance reduced to about a square inch with grass or wet rags; then three puffs of white, thick smoke are blown in and the entrance closed. In from 15 to 20 seconds the entrance is opened and the queen is run in, followed by a gentle puff of smoke. The entrance is again closed for 10 minutes, then opened and not enlarged until the next day.

He prefers the method with fertile queens, if possible, taken just before from a nucleus. I employed this method several times with excellent success, and could always ascertain that the queen began laying a few hours after the introduction. This is one of the greatest advantages of the method.

How is it that with the old-cage method so many queens are killed, according to my experiences? For I have observed that a queen may be accepted, but she is mutilated, and therefore in most cases worthless. I saw at different times how a queen was stung by a worker in the breast, and immediately was paralyzed in one of her legs or wings; and often I have seen such queens in my nuclei, or in colonies of a neighbor or friend. It occurs oftener than one would believe that a queen is

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thus damaged, and if it is an expensive, select queen, the bee-keeper believes he has been cheated, while it was the fault of the unsatisfactory method.

Mr. Miller does not believe in the odor theory, but I think that with it we may explain all, and without it many things cannot find a satisfactory explanation. He says that he found in his apiary, after a heavy honey-flow, that the bees of different hives had mingled to a considerable degree. I think that this experienee proves nothing. On the contrary, while there was a dearth, the bees did not mingle, of course, because in times of dearth the bees are exceedingly vigilant, and do not allow the intrusion of a foreign bee, which they must absolutely recognize by smell, or any other emanation of the organ which doubtless lies in the feeler. Possibly this sense of recognition may be quite another for which we may have no analogon. But be it in the sense of smell or any other irradiation, there must be something, and if we call it smell (without preoccupation to the kind of sense), we have at all events a good hypothesis which may explain a great many of the phenomena in bee-life.

On the other hand, when there is a good honey-flow the bees have no time to watch the entrance, nor is this a necessity, as the bees do not rob at such times. We know that if our attention is not directed on some object we may not perceive it, though our senses accept the impression. If I go through a street without paying attention to the scriptures of the sign-boards, I may read them without the impression penetrating to my mind. So the bees, occupied thoroughly with honey seeking, pay no attention to the objects on the alighting-board. Otherwise how would we explain what I saw some days ago.

A queen was full of lice. I gave her a little tobacco smoke and cleaned her. When I put her in the midst of the bees on a brood comb she immediately was attacked and balled. Another queen of mine was killed when I had marked her with color on the back. Certainly it was the foreign smell which caused the bees to attack their own queen. A great number of similar examples could be given. I maintain that, until now, there is no stringent proof against the smell theory; nor has there been given a better hypothesis for explaining the above mentioned facts.

How, then, are we to explain the bad success of the cage method? We know that the bees practice different occupations according to their age; the youngest bees are caring for the eggs, and every bee-keeper has seen how those young bees are going in all directions when we take out the comb. On the capped brood we find older bees, which are coliecting forces for the coming flight. On the periphery outwardly of the pollen-garland, we find the old, malign, suspicious bees always snuffing treachery. They seldom, or never more, find their way into the brood-nest, with which they have nothing to do. The place of the queen is in the midst of the youngest bees; that make a circle around her and give her the necessary feed. Unhappily the cage is placed, as a rule, into the district of the old bees, and if the queen is released, she has at first to pass them before arriving in the center. In times of a good honey-flow there is no danger. The old bees are in the field, and are in good humor, but woe to her in times of dearth when she is released and her smell is not sympathetic to the guardians.

With the direct method of introducing, the peripheric bees on the board are intimidated by the smoke; therefore, the queen may pass those ill-tempered guardians and penetrate to her kingdom, the center, where there is no longer any danger. The young bees willingly accept her majesty, and their tranquility will calm also the older bees. There is no doubt that there exists a profound concert between all bees of a hive. If there is harmony in the center, each bee of periphery knows it, and needs not convince herself by proper investigation.

Therefore, I recommed by full conviction the new method of Arthur C. Miller, especially for queens reared in the same apiary. For valuable queens coming by mail, I could not advise to adopt this process. Here the only *absolutely sure method*, which gives a success of 100 percent, even for virgins, is the *swarm method*, which is carried out as follows:

You make from one or more colonies by brushing off the bees, a good swarm, and place them into a swarm-box. The queen has been placed before into a tube of wire, closed at one end with a cork; at the other end with good bee-candy. Immediately the swarm is put in an absolutely dark, quiet place (cellar), and fed near the place of the queen with honey-water. After 2 to 24 hours the swarm is put into the hive as an ordinary swarm. The method is, as I said, absolutely sure, if you have not brushed into the box another queen, and it has the enormous advantage that such a colony will work with all the intensity and zeal of a swarm.

For introducing a valuable queen into a dequeened colony, one may proceed as follows: Brush the bees from 2 or 3 brood-combs of the colony into a swarm-box as before. Place the box above the colony, but not connected with it. After 2 days remove the cover of the box and place it in an empty super just above the brood-nest of the colony. Gladly the bees of the hive will join the little swarm and thus accept the queen, which will soon descend to the hive.

Zug, Switzerland.

Bees and Odors

BY D. M. MACDONALD.

THE sense of smell in bees, wherever we may choose to locate the organ, is extra acute, as all who spend a good part of their time in an apiary acknowledge. The balmy airs of spring blowing over a bed of violets gladdens our olfactory organs; much more does a field of white clover, a stretch of heather, a wood of basswood, or a plot of alfalfa prove attractive to the denizens of an apiary. Odor, wafted to them by the prevailing wind, carries miles away the information that there is the source of forage.

Let unprotected honey or syrup be exposed and soon will a large army be attracted. Let a poorly protected set of combs in a queenless or weak colony be scented, and how quickly will a robbing boom be established. Extracting in the open is im-

APIARY OF J. B. HOLLOPETER, AT PENTZ, PA.—(See "Reports and Experiences.")

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possible when a flow of nectar is dried up. Outside feeding, unless very carefully carried on, demoralizes a whole country side.

No less acutely are the organs of the bee affected by noxious perfumes. This was acknowledged by beekeepers before the Christian era. Virgil wrote: "And suffer not a yew near the bees' homes; nor burn in the fire the reddening crab-shells, and do not allow them to be near a deep pen, or where there is a noisome smell or mire." Bee-books from that time until now advise to locate an apiary apart from any offensive smells. Nothing taints more readily than both wax and honey when in proximity to a foul smelling substance, which is another sound reason for avoiding what would arouse the antipathy of bees. Therefore, the even temper of the workers, the equable temperature of their keeper, and the delicious flavor of their luscious sweet, are all influenced by offensive odor.

Odor also plays an important part in the well being of the community, because by it bees know their own sisters and their own queen, owing to the colony odor being the same. Queen introduction, union of different stocks, or the amalgamation of separate communities, requires a unification of odors if the two are to become one peaceably. Guards "spy" would be intruders mainly by the wonderfully acute smell hollows possessed in such vast numbers in their antennæ.

ODOR ANTIPATHIES.

No creatures are more susceptible to certain odors than bees, and as a result of experiments, I am led to think that ire in bees, and the consequent stinging mania, is very frequently produced by some such cause if matters were intelligently analyzed. "The stable odor" is generally credited with being most offensive to bees, but this is only partly true. A sweaty horse is anathema to them, unfortunately at times for the horse. Perspiration has for ages been set down in this list, but again this is only partially true. Perhaps a *dirty* sweat may, but a clean sweat does not always produce irritation. Well for many beekeepers that it does not, because at certain seasons, and under certain circumstances, he must be a very cool man indeed who can carry out a day's work among the bees without perspiring. A "stinking breath" *is* offensive to bees, yet snuff takers, tobacco chewers and smokers work among them unmolested.

I have seen, however, a man arouse very quiet bees to a state of frenzy by blowing in a few puffs of a foul breath when he was "out of condition." At other times he could breathe on them with impunity. I once received a very genuine stinging owing to the use of corrugated packing paper as a smoker fuel. It had been used in forwarding some kind of alcoholic compound, I afterwards learned, and whatever its nature it certainly converted generally good tempered bees into veritable demons. The whole population it seemed took wing instantaneously. The carbolic cloth properly prepared and applied acts as either a quitener or a regular intimidant; but cases have come under my notice when it roused bees to fury. Sometimes when it was undercharged, and at other times when it was overcharged with the solution.

I have consistently advised that the apiarist should not handle his bees with unwashed hands. "Cleanliness is next to godliness" is a truth worth impressing on the bee-keeper for the sake of the produce, which, like Cæsar's wife, should be above suspicion. In addition, however, the rule is a wise one if we consider only the bees. We handle so many tools and implements, so many plants and weeds in our gardens, and so many other articles in the course of the day—all more or less tainted with foreign odors—that to keep the bees' tempers sweet and equable, it is wise to deal with bees, frames and supers with clean hands.

The receptacles in which honey is stored should be very carefully washed, and then rinsed in clear water to ensure that no smell is left from the soap and other purifiers used in the cleaning. The same may be advised in regard not only to the extractor, but also as to all tools, implements and appliances which may come in contact with surplus either directly or indirectly. Much of the honey which is imported into this country suffers more from these foreign taints than from the inferior grade of the honey sent us, if it were consigned in its purity.

Some years ago we had great trouble owing to some foundation used being rejected by the bees on account of its offensive odor. Bees worked it under compulsion at times, but in general they avoided it, and even swarmed out rather than accept it. Under more modern modes of manufacturing it this danger is a thing of the past, if the parcels are kept apart from strong smelling substances. If wintered near some of these, bees will reject otherwise perfect sheets on account of the odor.

BEES AND CHASTITY.

A strange, persistent undercurrent runs through bee literature and literature dealing with the bee to the intent that the very occupation, or the close association with so model an insect, encourages purity, gentleness and goodness. It crops up in many classic writers of ancient Greece and Rome. Then it persists in the classics of early English literature. We have it, too, in the Koran, wherein rules are set down for the guidance of beekeepers.

1. No family may quarrel or live in discord.
2. Two partners in an apiary must agree on all points, never suspect dishonesty or unfairness in each other.
3. In any house where hives are kept no stolen object should be permitted.
4. No wickedness of any kind shall be allowed at such a house.
5. No guilty hand shall be allowed to touch a hive.
6. The surroundings of an apiary should be very clean; otherwise the bees will perish or leave their dwellings, bringing a curse on the neighborhood.

Perhaps these terse but emphatic rules are an embodiment of the wisdom of the centuries going before. Perhaps they took their origin in the strange anomaly of the very existence of these vestal virgins of the hive, the worker females! The purity of their lives cannot be questioned, and the high moral tone of their efforts for the existence and well being of the community is high souled and inspiring. Self-abnegation is the rule of their lives. The commonwealth is all in all to them. They themselves and their success or failure is less than nothing. And they go on "toiling and spining" for the good of a generation they will never live to see. There is something so high and holy in this grand rule of duty first, and the complete sinking of self for the well being of others, that we must admire and wonder, while our admiration must at times be tinctured with awe. Another enigma of the hive.

Banffs, Scotland.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to DR. C. C. MILLER, MARENGO, ILL. He does NOT answer bee-keeping questions by mail.

Cross Bees

1. Can you tell me why my bees are so much more cross this season than usual? I handle them the same as I have always done, using smoke and avoiding undue haste, etc., and there is no robbing going on. The trouble is not while handling them, but they have taken to coming up to the door-yard and lawn, and threatening (and once or twice stinging) any one who happened to be there.

I have always had Italians, until last year I experimented with Caucasians in the hope of finding a race of bees better adapted to this climate. The Caucasians have a good reputation for gentleness, and last year I really thought them more gentle than the Italians, at least to work with, and I am quite sure they build up faster in the spring. Are they more likely than the Italians to leave the hive to hunt trouble? Can it be that the crosses are more vicious than either breed if kept pure?

2. Can you suggest a remedy? Would it do any good to put a shield up by the side of each hive so as to hide the premises from

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the occupants of the hives? The hives (30 in number) are in a small orchard of young trees, and most of them are out of sight of the house, only two or three being plainly in view, and it seems to me that the cross has come from these hives. Would a high fence be a pretty sure cure for the trouble, or will it be necessary to move the apiary to a greater distance from the house, which I would very much dislike to do, as they are in a nearly ideal location now?

3. This has been a remarkably good honey year with me. Is this due in part to my Italian-Caucasian crosses? SOUTH DAKOTA.

ANSWERS.—1. I don't know what is the trouble, but I can make up a pretty good answer by adopting the suggestions made in your questions. It may be said in advance that there seem to be times when bees become especially cross without any apparent reason. Caucasians started out with the reputation of being the gentlest bees known; but some strains of them have been reported as cross. Generally, too, any cross is likely to be crosser than pure stock.

2. A high fence would be a help, and might be a full remedy. If a bee upon leaving its hive is obliged to rise above a certain level, it is not likely to go below that level anywhere in the vicinity of the hive. An entirely close fence is not at all necessary. A fence with slats or palings having 2 inches space between them will answer. Vines or bushes will do, only so they are high enough. Poultry netting answers. Instead of a shield at each hive (which, however, might be all right), it will likely be better to have a single fence of some kind to answer for all; say 6 feet high or more. Quite often all the bees in the apiary will seem cross when really only one or two colonies are the culprits. If you will recall, you will probably remember that at most not 50 cross bees are threatening you. A single colony can easily furnish that number. It isn't the easiest thing in the world to spot the cross colony, but by persistence you can do it, and then change the queen. For some reason I don't know; the bees upon receiving a good-natured queen become gentle before the bees of the old stock have all died off.

3. Most likely it's the season that deserves the chief credit. You're not the only one who has found this the best season ever.

Questions from China

1. I have several colonies of English black bees. They are smaller than the Italians, but more active and diligent. They are so small that the bees rear drones in worker-cells, so there is always a great number of drones in the hive. On this account I tried to Italianize them, but without success. They absolutely refused to accept the Italian queen, nor were the Italian queens themselves willing to join them, no matter how long the queens were caged in the hives. A friend of mine told me that the English black bees, as well as the native bees in China and Japan, cannot be requeened with queens of other species. Will you please tell me if there is a special way of Italianizing them? What do you think of the English black bees? Are they worth keeping for profit? The worst is that they have always too many drones which consume and reduce the honey crop. Having such a disadvantage, I wonder why the British apiarists prefer them to other species.

2. I have just bought some Italian bees of red clover strain from Japan last month, but I found that they don't work as energetically and actively as the English black bees. My friend in Japan told me that the Italians are not active during a dearth of honey, but when the flow comes on they will excel the other species. Did you have the same experience with the Italians in your country? The queens of my Italian bees have the whole of their abdomens of dark red color; the workers have also red abdomens, but with two or three black bands, and the tip of the abdomen is also black. The drones are very large; they must have large drone-cells to rear them. Are my Italian bees mentioned above pure red-clover strain? CHINA.

ANSWERS —1. I have some doubt whether your black bees are the same as the black bees they have in England, which are, I think, of the same size as the black bees of this country. I have never seen it stated that English black bees are noticeably different in size from the Italians. There is no special trouble in introducing an Italian queen into a colony of black bees here, and the same combs that the one kind of bees build are acceptable to the other kind. Neither is it the case that black bees rear drones in worker-cells, unless in the case of laying workers or a drone-laying queen. Certainly the English black bees are worth keeping for profit, and probably the majority of bee-keepers in England think them more valuable than Italians. Neither do the blacks rear more drones than Italians. If you get such black bees, combs and all, as are in use in England, you can easily change them into Italians.

2. The reputation of Italians here is just the reverse of that given by your Japanese friend. The Italians here keep gathering at least a little at times when the blacks gather nothing. Red-clover strains are not always reliable. Some of those sold as red-clover bees do not work on red clover. Even if they do work on red clover, the trait is not a permanent one, and the next generation may not work on red clover at all. Red-clover bees are not considered different in appearance from others, so that it is impossible to tell from description whether you have such bees or not. The only way to tell them is to see whether they work on red-clover blossoms or not.

Screen Colony House to Prevent Robbing

Have you in your country or elsewhere ever tried to make hives and keep bees in the following manner: Seeing the bees in an apiary, during a dearth of honey or even in a light honey-flow, often resort to robbing, it occurred to me to build the hives with wire-cloth on the two longer sides, and put them in an outer case, so that the wire-cloth sides of the hives touch each other, and all stand on a long bottom-board which is divided with scantling for each hive to stand on, and with a separate entrance for each hive. The outer case may be built for holding from one to ten hives, each side by side crowded together.

In this way, I think, colonies that are so put together will be prevented from robbing, because the colonies are only separated from each other by two pieces of wire-cloth on the sides of the hives, and the smell of each colony is thereby mixed, so that when the bees enter any of the hives in the same outer case, they would not be able to detect it is not their own hive. On the front of the outer case the entrances are separated or partitioned by nailing pieces of tri-angular boards between each. The front wall is to be painted in different colors.

Do you think such a combination of hives in one outer case practicable? I think it has the advantages: 1st, prevents robbing at least among the colonies so put together; 2d, it saves room, as one outer case to hold 10 hives would only occupy about 14 feet; 3d, it gives mutual warmth in winter, and 4th, you can take any number of bees from one colony and put it in the other without fear of fighting.

If you think my above suggestions are practicable, and will not affect the working and well being of the bees, I will make one and try it. CHINA.

ANSWER.—Your scheme is quite ingenious, and ought to work all right if the four foundation stones you mention are all right. Taking the four in reverse order; the 4th may be all right; the 2d and 3d certainly are; but how do you know about the 1st, which is the chief corner-stone? Have you any proof that bees will not rob from another colony having the same odor? On the contrary, have you never heard of cases called "silent robbing?" I don't think they are common, but they do sometimes occur. A swarm is found to be carrying away honey from the mother colony silently, and without any fighting, and the explanation given is that the bees of the mother colony do not recognize the robbers as outsiders because they are of the same odor.

A plan somewhat after the same order was exploited in the British Bee Journal a few years ago, but little has been said about it lately. Two colonies were side by side, separated not by wire-cloth but by excluder-zinc, and allowed to work in the same supers. One trouble was that too often one of the colonies went queenless, perhaps because of the similar odor the queenlessness was not recognized in time.

Swarm Prevention

About the time that natural swarming may be expected to begin go through the hives, cut out queen-cells and cage all queens. Seven or eight days later go through the hives again, cut out all queen-cells except a choice one in each hive, and remove all caged queens. The cell left in a hive need not necessarily be from that hive. The choice hives would probably have several frames with queen-cells in them, and these could be distributed among the inferior hives.

I judge from "Forty Years Among the Bees," that if this method were carefully carried out, there would be little or no swarming, but I am uncertain as to the effect on the honey crop. In my locality the surplus season is generally from about the middle of May to sometime between July 1 to 15. VIRGINIA.

ANSWER.—If swarming begins, as it does here, at about the beginning of the harvest, then you would cut cells and cage queen about May 15. Then May 23 you would remove the queen and leave one of the cells started after the queen was caged. A queen would issue from that cell about May 27, provided the bees started cells promptly upon the caging of the queen, and provided you happened to leave one of the oldest cells. Then, at the earliest, the queen might be laying eggs about June 4, and workers would emerge from them June 25, becoming fielders about June 30. There's a break in laying from May 15 to June 4, or 20 days, and all eggs laid in that 20 days could have been counted on to help gather the crop. In a good many cases you will find that everything would not work up to schedule time, making the break still more than 20 days.

I don't just see what you gain by keeping the queen caged instead of removing her at once.

Baits—Swarm Prevention

1. One of my colonies did nothing in the supers (comb honey) all the season. I wanted to give it a new queen. The queen arrived nearly dead; her company all dead. On examining that colony it was found heavy, full of bees, eggs, and every kind of brood and honey. So I had no heart to kill the queen. I was so hurried for supers that I made a few hive-bodies myself, and ordered insides to come by mail. Before the latter arrived I put on a home-made super and just threw in helter-skelter odd pieces of wood. By the time the insides had come quite a lot of honey was stored; so I thought I had gotten those bees to work, and put on a full-fledged comb-honey super, but in that they again did nothing. I have this year tried shallow frames at each side of the super and sections between, with but very indifferent results, and cannot thus agree with Townsend who asserts that such beat *baits*.

Baits, I contend, are the thing. What I will try next year is with some colonies in the start, to give them supers all full of shallow frames, and after work has been done in them, "swap" for section supers, and I will keep on again and again using initia

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torily those same shallow-frame supers; as after but little work has been done in them by colonies getting them first, subsequent colonies might the sooner take to same, preliminary to getting regular section supers. Would it be best to use a queen-excluding honey-board with shallow-frame supers?

2. In a method of swarm control, J. E. Chambers, of Texas, says that "when a colony is found getting ready to swarm, he removes one comb with adhering bees and brood, and sees that such comb has 'at least,' two sealed queen-cells." Will you describe how a colony would have to look inside before you would apply such methods, or shook swarming?

3. Is one queen-cell *only* capped in a whole colony enough?

4. It might seem that (besides) there may be few or several queen-cells in a colony, but no more than one on a frame. How about then deferring procedure until there are two queen-cells on some one frame?

On page 301, Miss Wilson quotes Miss Candler's method of swarm proventing—the above question as well applies to latter.

PENNSYLVANIA.

ANSWERS.—1. One cannot help wondering why the bees began work on those "helter-skelter" sticks and then refused to work on orthodox arrangements. Just possibly, if you had revrsed the proceeding, giving the regular surplus arrangements at the time you gave the sticks, and then the sticks when you gave the regular, yon might have found the action of the bees reversed, for the flow of nectar may have been the deciding factor.

I have never tried Townsend's way side by side with bait-sections. One would be a little inclined to give the preference to Townsend's plan in the belief that the combs on the outside would at least be a *larger* temptation than a single bait-section in the center; yet the fact of the bait being in tne center might give it some advantage over a comb at the side. But with several baits and a central location I would expect the bait-sections to be ahead. I surely know that I don't have any trouble in getting bees to start in the baits if they have anything to store there, and in a poor season I've had all bait-sections used, mostly filled and sealed, and nothing more done in supers.

I think you will do well to use excluders under your shallow extracting-combs.

That scheme of moving extracting-supers from one hive to another as fast as work starts will no doubt work; and so it will if you shift section-supers in the same way. It might be worth your while to try some in the way you propose, and others merely with baits, and report results.

2. Just one thing to look for inside to see whether a colony contemplates swarming (which is generally equivalent to saying it is ready for swarming), and that is to see several queen-cells started. I'd like to be more definite and just say how many, but there is nothing very definite about it. They may start half a dozen, 20, or more. If less than half a dozen I should guess it was a case of superseding rather than swarming.

3. As already intimated, a single cell started would look like superseding, but if a number of cells are present, and only one capped, that would be all right, only if that one has been capped only a short time, which is likely to be the case, it would be full as well to wait a little longer.

4. If you find a single cell on each of half a dozen combs, don't wait; that's just as well as if they were all on the same comb; only you will likely always find at least one comb on which more than one cell will be found. Having two cells on a comb is a matter of security, for sometimes it happens that a cell contains a dead larva. If it suits you any better you can cut a cell or cells from other combs and fasten on the comb you have chosen, selecting, of course, the best-looking cells. In general that will be the ones having the deepest indentations on them.

Parthenogenesis

I have carefully read the clipping referred to by "Illinois," on page 352, current volume of American Bee Journal, and am constrained to repeat the question, is it true? I am aware that I am stepping upon very "thin ice," and admit that I am poorly able to support that "ice" from above or below except by theory, backed by the lessons which nature has taught, and is continually teaching to those who have the ability and willingness to observe. I venture the assertion that if drone-bees are hatched from infertile eggs, nature, in all her mysterious as well as comprehensible processes, has permitted this one lone exception.

With the profoundest respect for you, and heartily joining you in respect for the memory of Dzierzon, I can but doubt the long accepted theory. It is a well established theory of physiology that the female is provided from inception with every ovum which she will produce during the period of reproduction, and that these ova are male and female. When these are fertilized they—under favorable environments—bring forth "each one after its kind." The queen-bee deposits eggs, male and female, in varying proportions, and from the peculier nature of the work of preparing for race perpetuation, deposits mostly females, as nature, from the beginning, had provided these worker bees (immature females upon whom evolves the task of looking after the interest of the race) who are able to distinguish the sex of the embryo bee, and proceed to destroy or nurture as the exigencies of the colony require.

MISSOURI.

ANSWER.—Not being a scientist, but only a practical beekeeper, it is hardly in my line to discuss that Dzierzon theory, or parthenogenesis. The safest thing might be merely to say that so far as I know the theory is quite generally accepted among scientific men, and you are entirely within your rights to reject it if you wish. Still, it will do no harm to talk a little about it, even if, as you say, I may be on thin ice. Wouldn't it be a joke if the thin ice should give way, and we'd both get a ducking?

You say it is a well established theory that the female is provided with every ovum which she will produce, and that these ova are male and female. If that be true, it settles the whole business at once, and sends the Dzierzon theory kiting. I venture, however, the guess that you may find such a theory not so well established after all. I may mention one or two things you must "buck" against before fully settling down in that belief. Microscopic investigation shows, I have read, that when the queen is fecundated her spermatheca is filled with spermatozoa from the male; that these same spermatozoa are found in the eggs in worker-cells, and that no such spermatozoa are found in the eggs while still in the queen's ovaries, nor yet in the eggs in drone-cells. Moreover, the eggs of an unmated queen, if she lays at all, will produce only drones, no matter whether they are in drone-cells or worker-cells. Doesn't that look as if the eggs in the queen's ovaries are all alike, instead of being male and female?

You call the hatching of drones from infertile eggs "one lone exception." Beg pardon; plant-lice also lay eggs that produce life without impregnation, and perhaps other things.

Here is what is to be found in the Standard Dictionary:

"*Parthenogenesis*, reproduction by means of unfertilized eggs, seeds or spores, as in many rotifers and polyzoans; production of a new individual from a virgin female without intervention of a male, as in plant-lice and some hymenoptera."

Please don't think that's a definition of my making. Although I was editor of bee-terms, I had nothing to do with that difinition, and you see it gives parthenogenesis as a thing settled. Still, if all this doesn't "cut any ice" with you, you have the privilege of standing on whatever ice you like.

REPORTS AND EXPERIENCES

A Hive Record

For a hive record I drive two tacks in the back of the hive and drop a V-shaped piece of galvanized iron between them. In the summer the marks are outside, and in the winter are turned in.

Small slates would be a good thing if made V-shaped.

CHAS. CHANDLER.

Garden City, Kan.

Dry in Kansas

I started with 3 colonies and haven't allowed them to swarm this season. They have produced 48 pounds of fine honey, and have big stores for winter This has been a fearfully dry season here.

J. A. TUFTS.

Abilene, Kan., Aug. 30.

Poor Honey Crop in Kansas

We had the poorest honey crop this year that we have had in ten years. Very few colonies have sufficient stores to winter. I have 18 colonies and did not get any honey, but had to feed more or less all summer.

H. F. HILLEBRANDT.

Osborne, Kan., Sept. 20.

Afraid for Clover in Missouri

What is the general opinion in regard to white clover for next season? The very severe drouth we have had over this country, I am afraid, will kill out all of the old white clover, and if I am correct white clover grown from the seed does not produce much honey the first year.

Yesterday we had the first good rain of any consequence since the latter part of June. The corn crop here, which is the best in the State, will probably be equivalent to about ⅛ or ⅙ of the crop, but the fodder dried up a month too soon, and has already been cut.

The apple crop is also practically lost, as the apples did not grow to more than half their usual size, and most of them have already fallen off the trees.

Higginsville, Mo. LEAHY MFG. CO.

A Fair Crop

Notwithstanding the extreme drouth our bees have made quite a bit of honey of a very fine quality. Foul brood has not given us any trouble, for which we are very thankful.

H. O. BADER.

Browning, Ill.

Good for a Beginner

In Richland Co., Wis., the honey crop has been the best in years. White clover bloomed until Sept. 4. Right now my bees are working as lively as at any time this season (Sept. 6).

I started bee-keeping this spring, bought

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one good colony in a modern hive, had one prime swarm, cut four bee trees, and made one nucleus. I have now five good strong colonies with plenty of stores for winter. I united one swarm I captured with my nucleus, which made it strong. I use 8-frame hives with Hoffman self-spacing frames.

L. BERNIE SMITH.

Richland Center, Wis., Sept. 6.

In Good Shape for Winter

Bees are yet storing surplus here, but soon the yield will slacken off gradually. We have been much favored here in all crops; good honey and yield. Bees, of course, are in fine order, and will go into winter strong in young bees. We know what that means with good care later.

Milledgeville, Ill. F. A. SNELL.

Too Little Rain

Our crop of honey here is very short, only one gallon to the hive, spring count. No rain from April 2 until Sept. 10.

Bunceton, Mo., Oct. 4. J. R. MARYE.

FANCY SECTIONS OF BUCKWHEAT HONEY—THE FAVORITE OF THE PENNSYLVANIANS.

Good Showing in Spite of the Drouth

I had 5 colonies this spring all in good shape. They each brought me one new swarm, then I did not let them swarm any more, but let them make section honey. I just finished taking off the last honey today, 152½ pounds. Nearly all is nice comb honey. They have plenty left for winter. They can't gather much more for it is so hot and dry that everything looks like a hay field. We have to depend upon white clover here, and the season doesn't run over four weeks, and I live in the suburbs of the city, so that isn't like out in the country.

A. A. NUNNINK.

Kansas City, Mo., Aug. 13.

Transferring—Drone Comb for Supers

In transferring bees from a plain box-hive into a movable frame hive, I take a saw and cut some strips out lengthwise of the top of the plain hive, and also pry the bottom off and place the hive on top of the movable-frame hive with full sheets of foundation wired, which I have prepared for this purpose Then I smoke the bees down until they are nearly all down in the frame hive I put a bee-escape between the two hives, so the bees can go down but not return. In one or two days I look through the frame hive to find the queen. If she is down below then I leave the plain hive on for about two weeks, when all the sealed brood will be hatched and down in the lower hive. Of course, the bees should be fed until they have the combs at least half built.

In the winter I leave the colonies on the summer stands, where it gets about 30 degrees below zero, and by giving them all the opportunity to fly, they winter all right. But when there is snow I always let it get a crust on top before I shovel it away, otherwise the bees would fall in the snow and be lost. By placing three sheets of newspaper on each side, between the hive body and the frame, it keeps the colonies much warmer. I also keep a sack with chaff on top of the hive in an empty super.

This summer I ordered some "drone comb foundation" for the shallow extracting frames, and I have found them to be easier uncapped even with a colder knife, and more rapidly extracted than the worker comb.

FRED DUETSCHE SR.

Charleston, Utah, Sept. 12.

Introducing Queens

The first good rain we had here since the middle of June we had on Sept. 10. We had the warmest summer this year I ever experienced. Every flower, the corn, the grass, everything was killed, but I received a fair crop of honey. Only one colony swarmed out of 22. I have mostly Italian bees, and as some beekeepers claim a good crop, I am glad to hear it. I had some colonies filling three 10-frame supers of sections. Some made only two supers. In introducing queens, I make the colony queenless for at least six days before introducing. On the fifth day, after taking out the old queen, I take out all queen cells and wait two days more and hunt up the queen cells again. If they start some again I take them out again, and four days after hang the queen in the cage between the frames, and leave her there for 24 hours, even a little longer. Then I open the candy block and let the bees eat her out.

I never had one killed that way; but the other way, as the instruction card reads, half of the queens are killed. Now, for example: I had a queen ordered a tested one. I made the colony queenless the same day I ordered the queen. As they didn't have a tested queen on hand, it took 12 days before I received her; but remember I left three queen-cells in the hive, and as soon as I received my tested queen, I took the three queen-cells out and hung the queen-cage in between two frames, and two days after I opened the cage she was most welcome.

Atchison, Kan. NICK JENTGEN.

[Your method is all right. It has the objection, however, that it leaves the colony queenless for several days. At certain seasons of the year this would not matter, while in the spring, when breeding is to be rushed as fast as possible, it would retard the progress just that much longer.—EDITOR.]

Beekeeping in Pennsylvania

Picture No. 1 shows an almost ideal location for an apiary. Situated in a young plum orchard it is sheltered on the west and north, the two bad sides, by buildings and natural windbreaks. This apiary was begun with a single colony of hybrids, and rapidly built up to a yard with 80 colonies of pure Italian bees. Wintering is uniformly successful here.

Pictures No. 2 and No. 3 show how unafraid the women are around an apiary when once they become acquainted with the work. In No. 3 the girl is possibly a little small to negotiate the supers by herself, but she is there to puff the smoke and help get the honey from the hives. J. B. HOLLOPETER.

Pentz, Pa.

Bees in British Columbia

Attached is a photograph of one of my three rows of bee-hives under fruit trees. As you can see, there are 4 colonies on each stand, which is 40x48 inches, and stands 15 inches high. In summer I spread the 4 colonies as far apart as stands will allow. I winter in the cellar, and when the bees are taken out in the spring they are set as close together as possible; a case is put over the 4 and filled with dry sawdust, which is taken off the last of May. I find this an ideal way to handle them.

I am only a beginner, but am trying to start right. In two years I increased from one colony to 105. However, I bought others which did not do so well. I am located in the far-famed Okonagan Valley of British Columbia, close to Kelowna, "The orchard city of the Okonagan," where was raised and packed the car of Jonathan apples which Mr. Van Deeman, the first judge of apples in the United States, pronounced, at Vancouver, the best car of apples ever exhibited. The bee-industry is as yet in its infancy, but like our fruit industry, it is fast coming to the front.

Rutland, B. C. D. E. MCDONALD.

45,000 Pounds for Mr. Byer

We have had a bountiful crop in York county, while up in our Lovering yard, 100 miles north of here, the yield is light. Up there, owing to late frosts and severe drouth, the average will be but 45 pounds or thereabouts. That yard has now 385 colonies, and is shown in the two pictures sent to you last week. At the home apiaries, with a little less than 300, counting all that had queens, we will have about 45,000 pounds of honey; 37,000 pounds of that being No. 1 clover, and the balance buckwheat. If we had had rain for buckwheat, it would have easily been 10,000 pounds more.

Mount Joy, Ont., Sept. 17. J. L. BYER.

PSHAW! WHO'S AFRAID.

Classified Department

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.

BEES AND QUEENS.

PHELPS' QUEENS are hustlers.

BEES AND QUEENS from my New Jersey apiary. J. H. M. Cook,
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FOR SALE—Choice Golden Queens that produce Golden bees equal to any.
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CHOICE QUEENS from June to Sept. 1 at $1.00 each; six for $5.00. Place orders now, and have them filled in rotation. 5Atf
D. J. Blocher, Pearl City, Ill.

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GOLDEN all-over Queens. Untested, $1.00. Tested, $3.00. Breeders, $5 and $10.
Robert Inghram, Sycamore, Pa.

PHELPS' QUEENS will please you.

QUEENS — Improved red-clover Italians, bred for business; June 1 to Nov. 15. Untested queens, 75c; select, $1.00; tested, $1.25 each. Safe arrival and satisfaction guaranteed. 1A1y H. C. Clemons, Boyd, Ky.

FOR SALE—5 to 100 colonies of good Italian Bees of Doolittle strain in Danz. Hives. Will take Barnes' Power Saw in exchange, if suitable and in good shape. Edw. L. Hall, 1706 Forres Ave., St Joseph, Mich.

THE RUSH FOR PHELPS' queens has been so great that we will be unable to take care of any more orders this year. We have some of the finest breeders for next year that you ever saw. Give us your orders early. C. W. Phelps & Son,
Binghamton, N. Y.

FOR SALE—Choice virgins, 40 cts. each; 3 for $1.00; untested, 60 cts.; tested, $1.25; breeders, $2.50, Italians or Carniolans.
Stanley & Finch, 1451 Ogden Ave., Chi ago.

SPECIAL — Golden-all-over queens that produce workers of the brightest kind. 5000 mated queens was my sales last season. Untested queens each 75c; 50, $32.50; 100, $60.00. Tested, $1.25. Select-Tested, $2.00. Breeders, $5.00 and $10.00. J. T. Dunn, Queen Breeder,
6A7t Rt. 3, San Jose, Calif.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Goldens and their honey-getting qualities. Price, $1.00 each; Tested, $2.00: Breeders, $5.00 and $10.00.
2Atf J. B. Brockwell, Barnetts, Va.

HONEY AND BEESWAX

FOR SALE—No. 1 white comb. $3.50 per case; No. 2, $3.00, 24 sections to case; six cases to carrier; clover extracted, two 60-lb. cans to case, 9 cents. 9Atf
Quirin-the-Queen-Breeder, Bellevue, Ohio.

FOR SALE.—Fine, Rich, Pure White Clover Honey; also Light Amber Alfalfa. Put up in any size packages, any quantity. Write for prices.
11Atf Dadant & Sons, Hamilton, Ill.

DEALERS and producers who buy honey, kindly ask for a late number of the Review, giving a list of members having honey for sale. Many carloads are listed in the October number. Address, 9Atf
The Bee-Keepers' Review, Northstar, Mich.

FOR SALE—Our crop of "Elite" white clover extracted honey. None better produced. Also, Raspberry extracted, blended with willow-herb, nearly as white as the clover, good body and flavor, 8c per pound. Sample of either free. Address,
E. D. Townsend & Sons, Northstar, Mich.
(Formerly at Remus.)

20,000 POUNDS OF HONEY for sale. Buckwheat, goldenrod, aster blend. $8.40 per case. This is dark honey (golden). Clover, milkweed, raspberry blend of good body; but off a little in color and flavor, $9.00 per case. Above honey all in new 60-lb. cans and cases. 120 pound net to case. Sample upon request,
9A2t Ira D. Bartlett, East Jordan, Mich.

PURE RASPBERRY HONEY—Was left on the hives until all sealed and ripened. The quality is very fine; none better. The raspberry honey crop was very short this year. If you want some of this delicious honey better order soon. It is put up in new 60-lb. tin cans. Price, $6.00 per can. Sample by mail, 10 cts., which may be applied on an order for honey. Elmer Hutchinson,
Pioneer, Mich.

"NULL'S FAMOUS MELILOTUS HONEY." Sample for stamp. Null Co., Demopolis, Ala.

WANTED—Comb, extracted honey, and beeswax. R. A. Burnett & Co.,
6A12t 173 S. Water St., Chicago, Ill.

WANTED—Spanish-needle honey. Our crop of Spanish-needle honey has been very short this year, and we would like prices and samples from producers of Spanish-needle honey. State quantity, price, and how packed. Dadant & Sons, Hamilton, Ill.

FOR SALE

FOR SALE—Empty second-hand cans, two cans to the case; good as new; 25c per case.
C. H. W. Weber,
2146 Central Ave., Cincinnati, Ohio.

FOR SALE—80 acre poultry and dairy farm. Good location for bees. $25 per acre.
Write to P. Sorensen, Sebeka, Minn.

FOR SALE—Until Dec. 20, 100 second-hand 3-story L. hives with 40 combs each for $5.00. Each hive on car here.
Geo. W. Riker, Russell, Iowa.

MY ENTIRE APIARY of 175 colonies Italian bees with complete outfit for running same for comb honey; also International Harvester Auto Truck. Selling on account of sickness. J. S. Shatters, Fort Lupton, Colo.

BEE-KEEPER, let us send our catalog of hives, smokers, foundation, veils, etc. They re nice and cheap. White Mfg. Co.,
4Atf Greenville, Tex.

POULTRY

FOR SALE — Buff Orpington eggs, pure bloods: $1.00 for 15. Satisfaction guaranteed.
2A1y W. H. Payne, Hamilton, Illinois.

HONEY LABELS

THE NUMBER of enquiries coming in for honey labels has been so large that we have decided to put in a stock of these for the convenience of our readers. Should you be in need of anything in this line, send for a copy of our label catalog, which will be sent free, American Bee Journal,
Hamilton, Ill.

SITUATIONS.

WANTED—Experienced Apiarist to help pack bees for winter, and to get ready for next season. May develop into steady work for a year or more. E. H. Bruner,
3836 North 44th Ave., Chicago, Ill.

CO-OPERATION means **buying right** and **selling right.** We are a co-operative association, and sell the best Bee-Supplies obtainable at the right prices. It will pay Western Bee-Keepers to send for our Illustrated Catalog.
Colorado Honey-Producers' Association
Denver, Colorado

Dr. Peiro will continue to give the readers of the American Bee Journal free advice regarding the subject of SURGICAL and MEDICAL treatment. Many have availed themselves of this offer. Return postage is all you need to send. Address, DR. PEIRO, 4536 Perry Street, Chicago, Ill.

IF YOU are having trouble trying to live by eating by eyesight, send for my circulars and receive a slice of eating by brainsight.
C. W. DAYTON, Owensmouth, Cal.
The Ripe Honey Man

New York State Convention

The New York State Association of Beekeepers' Societies will hold its next annual meeting in Rocester, N. Y., Dec. 2 and 3, 1913. We expect to have the usual good time renewing old acquaintances and forming new ones, and learning from the advice and experience of those working in our chosen field. All those interested in beekeeping are urged to be present. You can't afford to stay away, as we often get advice free that will bring us many dollars.
IRVING KINYON, *Sec.*
Camillus, N. Y.

Statement of the Ownership, Management, Circulation, Etc.,

of the American Bee Journal, published monthly at Hamilton, Illinois, required by act of August 24, 1912.

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M. G. Dadant, Business Manager.

Sworn and subscribed before me this 2d day of October, 1913.
H. M. CUERDEN,
[SEAL] *Notary Public.*
My commission expires Aug. 25, 1917.

Choosing the Right Present

Are you in doubt about a certain present? The Youth's Companion has proved to be one of the best that can be chosen. Perhaps you have not seen it lately, and are not quite sure. Then let us send you a sample copy or two. Suppose you ask for the issues containing the opening chapters of Arthur Stanwood Pier's fine serial story of life in a boy's school—"His Father's Son." If you look the paper over carefully, bearing in mind that there are 52 such numbers for a year's subscription of $2.00, we are sure you will say that a better present could not be chosen, whether for a young person or for an entire family.

For the year's subscription of $2.00 there is included a copy of The Companion Practical Home Calendar for 1914 and all the issues for the remaining weeks of this year, dating from the time the subscription is received.

If you ask for sample copies we will send with them the Announcement for 1914.

THE YOUTH'S COMPANION,
144 Berkely Street, Boston, Mass.

New Subscriptions Received at this Office

EXTRACTED HONEY

Just received car New Utah Alfalfa Honey, **9 cents** a pound f. o. b. Kansas City, Mo. **C. C. CLEMONS BEE-SUPPLY CO.**
137 Grand, Kansas City, Mo.

American Bee Journal

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HONEY AND BEESWAX

KANSAS CITY, MO., Oct. 10.—The supply of comb honey is liberal; demand fair. The supply of extracted not large, but the demand is very good. We quote as follows: No. 1 white comb, 24 section cases at $3.00 to $3.10; No. 2, $2.75 to $2.90. No. 1 amber, $3.00; No. 2, $2.50 to $2.75. White extracted per pound, 8@8½c. Beeswax, per pound 25@30c.
C. C. CLEMONS PRODUCE COMPANY.

CHICAGO, Oct. 16.—The market during the past two weeks has been more active, and has nearly kept pace with the receipts, but the accumulations of the previous four weeks or more are many of them yet unsold. The white grades of comb honey range from 16@17c per pound for A No. 1 to fancy, but the majority of the receipts sell at from 15@16c per pound. The amber grades range from 1@3c per pound less. Extracted honey is also quiet, with the white grades bringing from 8@9c per pound, and the ambers from 7@8c per pound, according to kind and quality. The weather and season of the year is now favorable for the outlet of honey, and were it not for the large offerings, the quality of the crop should command even higher prices than now prevail. Beeswax is steady at from 30@32c per pound, according to color and cleanliness. R. A. BURNETT & CO.

CINCINNATI, Oct. 3.—The demand for both comb and extracted honey is not as brisk as it should be for this time of the year. We are receiving quantities of both comb and extracted honey. Fancy white clover comb honey is selling at 16c per pound. No 1 white is selling at $3.50 per case of 24 sections. Off grades do not sell. White clover extracted honey in 60-pound cans is selling from 9@9½c per pound. Amber grades are selling from 7½@8½c per pound, according to grade and quantity purchased. Beeswax is selling from $33 to $35 per hundred.
The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

CINCINNATI, Oct. 22.—The demand for honey is good. We sell fine table honey in 60-pound cans from 8@10c a pound, according to the quality and quantity. Amber honey in barrels from 5½@8c. Comb honey, the very fanciest we are getting, from $3.75 to $4.00 a case. For choice bright yellow beeswax we are paying 30c a pound delivered here. THE FRED W. MUTH CO.

INDIANAPOLIS, Oct. 22.—Honey is moving freely. Fancy white comb is selling at 16@17c; No. 1 white, one cent less Finest extracted, 9@10c in 5-gallon cans. Beeswax is in good demand, and producers are being paid 32c, cash or trade.
WALTER S. POUDER.

BOSTON, Oct. 10.—Fancy and No. 1 white comb, 16@17c per pound. New fancy white extracted in 5-gallon cans, 10@11c. Beeswax, 30c. Pure white honey in barrels, 9c per pound. BLAKE-LEE COMPANY.

DENVER, Oct. 22.—Our local market is well supplied with honey, and our jobbing quotations are as follows: Strictly No. 1 white, per case of 24 sections, $2.70; choice, $2.57; No. 2, $2.43. Extracted, white, 8@9c; light amber, 7@7½c. We are in the market for beeswax, and pay 30c per pound in cash, and 32c in trade delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.,
Frank Rauchfuss, *Mgr.*

NEW YORK, Oct. 10.—The new crop of comb honey is now beginning to arrive quite freely; the demand is good for all grades, and we quote a fancy white at 16c, and some especially fine lots will bring 17c. No. 1 white at 14@15c; No. 2, 13c; mixed, dark, and buckheat at 11@12c per pound. Extracted is in fair demand, with sufficient supply of all grades excepting California sage. We quote white clover at 8@9½c, according to quality, light amber, 7½@8c; dark, mixed, and buckwheat, 7@8c; southern in barrels, as to quality, 70c@80c per gallon. Beeswax steady at 32c per pound. HILDRETH & SEGELKEN.

SAN FRANCISCO, Oct. 19.—Comb honey has been coming in, and the demand is very light, owing to plenty of fruit. Extracted is moving slowly. Comb honey, fancy, 14½c; No. 1, 13c; light amber, 10@12c; darker grades 8@11c. Extracted, water white, 9c; light amber, 7½@8c; other grades, 5@7c. Beeswax, 30c for nice yellow; darker grades 24@26c. JOHN C. FROHLIGER.

LOS ANGELES, Oct. 15.—Since writing on June 30, quoting light amber honey at 6½c, we have received a good many offerings from the producers, and it is possible that the price named could be shaded an eighth of a cent per pound on firm offers.
HAMILTON & MENDERSON.

American Bee Journal